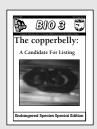
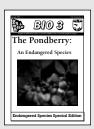




July 1995







Special Edition













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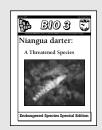
























forefront, what will it mean to Region 3 species and present work?



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ESA understanding, communication vital to all Service employees

One of the important initiatives of the Department of the Interior and the U.S. Fish and Wildlife Service is that of improving internal communications with regard to the Endangered Species Act (Act). Director Mollie Beattie's letter of June 3, 1994, underlined the importance of this effort and the critical need for every employee to understand and be able to explain the Act and associated Service responsibilities

and programs. She stated: "The experience we gain from [this] outreach effort will enable us to use similar approaches to better inform the public about other pressing issues, such as Refuges 2003, fisheries policies, waterfowl management, Native American policies and the ecosystem approach to fish and wildlife conservation."

his issue of Bio 3 will provide employees

some of the resources and references for development of a good working knowledge of the Act. There is information on the Act's history, and examples of challenges the Act has met or still faces, both in its administrative policies and reauthorization. There are stories of success where the Act's flexibility has enabled preservation of a species, while allowing development to continue; personal perspectives on the Act from private business and land owners; and stories from our State partners in threatened and endangered species management. This special edition also contains listings and photographs of all listed Region 3 species; explanations of how plants and animals become "candidates" for the Act's list and how animals and plants are added to the list; facts about issues popularized in the media, such as the spotted owl and the California fires/kangaroo rat issue; places where endangered species may be seen (or heard) in the wild; and places where their protection is being addressed by private citizens. A listing of outreach tools, such as slide programs, brochures, videotapes, reference and other materials, is also included.

This publication is intended to provide advice on how to improve all aspects of communicating with the public and media; to recognize the changing and sometimes volatile climate in which the Act is being debated and remain sensitive to the diversity of opinion; and to be able to respond effectively should the Act and the Service's associated programs be misrepresented. Whether it be through briefings, workshops, news releases, or one-on-one contact, we all must remember to use good judgment and common sense in communications.

Keep in mind that many Americans believe their livelihoods may be in jeopardy because of environmental regulations and be respectful of those concerns. The Fish and Wildlife Service mission is this: to conserve, protect and enhance the nation's fish and wildlife and their habitats for the continuing benefit of the American people. We can relate the work we do to "the benefit of the American people," and we must learn to be able to explain the

"how" of that in all our actions.

One final item: An interdisciplinary core team of Regional employees has been put together to develop an action plan that can be used by all programs and at all levels within our organization. This team, led by Joan Guilfoyle (PA) and including Kate Winsor (ES), Ron Refsnider (ES), Tom Worthington (ARW), John Leonard (AF), Larry Dean (PA), Charlie Wooley (ELFO), Jennifer Szymanski (BFO), Ben Tuggle (CIFO), Paul Burke (TCFO) and John Cooper (ELFO), is working to have these items in your hands shortly.

o ensure its success, every discipline within the Region must cooperate fully in this outreach effort. Find the time to be fluent with the Act. Take on this challenge and try to determine how you can integrate it with your daily work activities.

Keep this issue of Bio 3 close at hand, and use it when needed.

Bill Hartwig
Regional Director

"Keep in mind that many Americans believe their livelihoods may be in jeopardy because of environmental regulations and be respectful of those concerns."

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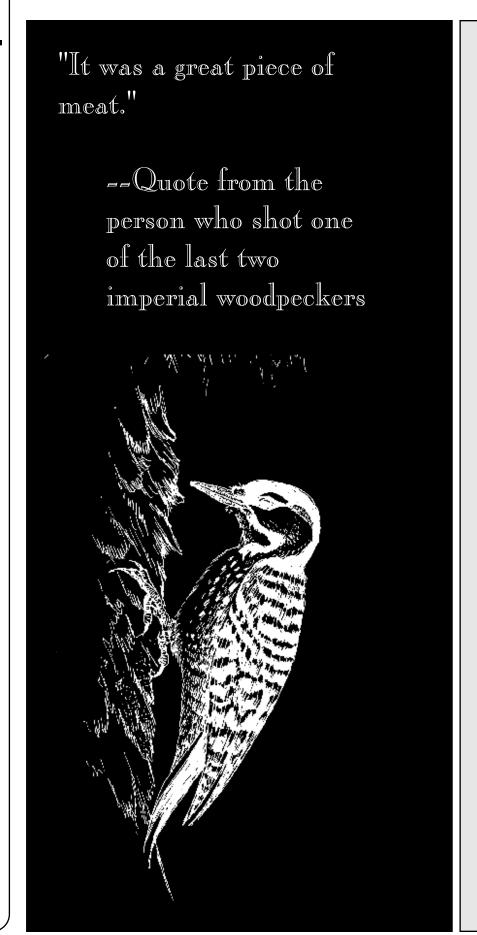
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A Play by the U.S. Congress and President Richard Nixon As told by Kate Winsor, Information and Education Coordinator, Division of Endangered Species

THE CAST

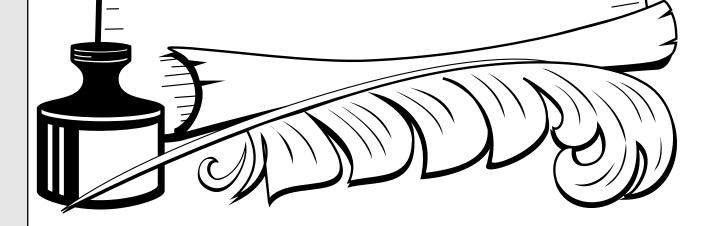
(In the order of their appearance)

Endangered Species . . . any species which is in danger of extinction throughout all or a significant portion of its range.

Threatened Species any species which is likely to become endangered within the foreseeable future.

ACT ONE

Ecologist Aldo Leopold once noted that the first rule of intelligent tinkering is to save all of the pieces. That's what the U.S. Congress had in mind 29 years ago when they passed the Endangered Species Preservation Act. This law allowed listing of native animal species as endangered and provided some means for their protection. Three years later, the Endangered Species Conservation Act of 1969 was passed to provide additional protection to plants and animals in danger of "worldwide extinction." A 1973 conference in Washington, D.C. led to the signing of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which restricted international commerce in plant and animal species and their parts and products believed to be harmed by trade.



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Later that year, the Endangered Species Act of 1973 was passed, which combined and considerably strengthened the provisions of its predecessors, and broke some new ground. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service became the designated Federal agencies with responsibility for administering the law. Here were its main provisions:

- * U.S. and foreign species lists were combined, with uniform provisions applied to both.
- * Categories of "endangered" and "threatened" were defined.
- * Plants and all classes of invertebrates were eligible for protection, as they are under CITES.
- * All Federal agencies were required to undertake programs for the conservation of endangered and threatened species, and were prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat".
- * Broad taking prohibitions were applied to all endangered animal species, which could apply to threatened animals by special regulation.
- * Matching Federal funds became available for States with cooperative agreements.
- * Authority was provided to acquire land for listed animals and for plants listed under CITES.
- * U.S. implementation of CITES was provided.

More than 950 species of plants and animals native to the United States, and more than 560 species living in other parts of the world, have been placed on the U.S. List of Endangered and Threatened Wildlife and Plants, and thus receive protection under the Act.

ACT THREE

Battered by its critics, but still strong, the Endangered Species Act was significantly amended in 1978, 1982, and 1988. The overall framework of the 1973 Act remained essentially unchanged. The law is again due for reauthorization and opponents are pushing hard to weaken its provisions, while others are defending it and pushing for changes that will help speed species recovery. Whatever the outcome of reauthorization, the Service's ultimate goal will remain the same: to maintain the natural diversity of plants and animals and the ecosystems upon which they depend.



Endangered or threatened species:

How do they become that way?

Editor's note: The following information was extracted from the Biologue Series general information fact sheet on endangered and threatened species.

nimals and plants have come and gone since life on earth began. However, habitat destruction and other causes of species decline have accelerated the extinction rate. Natural processes that used to take millions of years are now compressed into decades, and become unnatural processes.

In the past, solutions seemed easy. When an animal or plant needed protection, laws were passed to prohibit killing or destroying it, or a refuge was established for it, or provisions were made to feed it through the winter months. In such manner the American buffalo, elk, antelope, and trumpeter swan were brought back from very low numbers to more viable populations.

Now, far more complex factors threaten plant and animal life. In parts of the West, eagles are electrocuted when they perch on power transmission poles. In Florida, hatching sea turtles are lured into the cities because they mistake the reflected city lights for the starlit sky over the ocean. Young salmon migrating downstream die from nitrogen saturation caused by the compression of bubbles of dams built to generate electric power.

Congress passed the Endangered Species Act in 1973 to help save species facing the risk of extinction. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service became the designated Federal agencies with responsibility for administering the law.

Many factors can cause species to become threatened or endangered. Examples include:

Habitat Destruction, Degradation, and Fragmentation. Once abundant throughout the Southeast, the red-cockaded woodpecker rapidly declined as southern pine forest habitat was

altered for a variety of uses, primarily timber harvest. It nests and roosts exclusively in cavities of older, living pine trees.

The species was listed as endangered in 1970 under a previous endangered species law. The current red-cockaded woodpecker population, estimated to be 10,000 to 14,000 birds, is fragmented into isolated islands of populations ranging from Texas east to Virginia.

Environmental Pollution. Endangered species often serve as indicators of environmental problems that may also affect people. A good example is freshwater mussels. Several mussels are endangered in large part due to pollution of the waterways where they live. Contamination commonly results from agricultural pesticide runoff, municipal sewage disposal, and industrial waste discharge.

Introduction of Exotic (Non-Native) Species. Introduced species can, if uncontrolled, increase and become a threat to other species of wildlife. Foxes released by Russian and American fur traders in the Aleutian Islands of Alaska nearly destroyed the Aleutian Canada goose.

Rats introduced by sailing ships to the Hawaiian Islands played havoc with nesting birds. Mongooses (African weasels) were later imported to control the rats; but the mongooses turned on nesting birds and were a serious factor in bringing near extinction to the nene goose.

ommercial Exploitation.
Many early laws passed to
protect animals and plants
were poorly written and/or inadequately
enforced. This made it relatively easy
for rare, native plants such as some
cactus, carnivorous orchid, and others
to pass into commercial trade.

The demand for exotic pets, such as parrots, and other wild birds, has caused many of these species to become endangered.

Also, some animal parts, such as those of bear species, rhinoceros, and tiger, are considered by some Asian cultures to have medicinal powers. The illegal wildlife trade is a very lucrative business and the demand for these animal parts is a growing threat to their very survival.

lephants and many species of sea turtle are also endangered due in large part to the demand for ivory and turtle shell for jewelry and other wildlife products.

Natural Factors. There are many reasons that some animals and plants flourish for thousands of years while others vanish within a relatively short time. Species that do survive exhibit a common trait -- adaptability. The animal or plant that is able to change its requirements to fit changes in its environment holds the vital key to survival. The likelihood of recovery for an endangered species is very much affected by its ability to adapt.

Conversely, animals and plants that naturally resist change, or specialize rather than adapt, are more vulnerable to extinction. The Everglades kite, for instance, feeds only on the apple snail; and the black-footed ferret of the Great Plains feeds almost entirely on the prairie dog. The Tobusch fishhook cactus, in Texas, lives only along the bottoms of intermittent streams, or washes that remain dry for long periods of time. All of these species are dependent upon extremely narrow resources or rare habitats.

Some plants and animals will become extinct for reasons not yet fully understood by science. Some may die out regardless of what we can do for them. Others may die before they have even been identified. Extinction remains a fact of life on this earth. But a disregard for the many man-made factors contributing to destruction of our natural world could soon cause us to find our own well-being in question.

The fact is we don't know all of the functions of each species in our ecosystems and their effects on and potential benefits to man. That is why

Continued on Page 17

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How do species get listed?

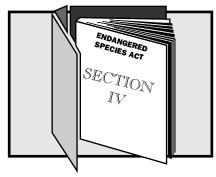
Editor's note: The following was extracted from the Service brochure "Placing Animals and Plants on the List of Endangered and Threatened Species."

More than 950 species of plants and animals native to the United States, and more than 530 species living in other parts of the world, have been placed on the U.S. List of Endangered and Threatened Wildlife and Plants.

Section 4 of the Endangered Species Act deals with listing and recovery of species. In order to list a species, the U.S. Fish and Wildlife Service must follow a strict legal process known as a "rulemaking" procedure.

As a first step in assessing the status of a species, the Service publishes notices of review that identify U.S. species considered as candidates for listing. Through "notices of review," the Service seeks biological information that will complete the status review for these species. These and all other notices throughout the rulemaking process are published in the Federal Register, a daily Federal government publication.

To develop the list of candidates, the Service relies largely upon petitions from knowledgeable individuals or organizations, Service and other agency



species surveys, and other field study reports. About 3,770 species are now considered candidates, but close to 3,400 of these lack sufficient data to determine whether they warrant listing. Because of the large number of candidates and the time required to list a species, the Service has developed a priority system designed to direct its efforts objectively toward the species in the greatest need.

Once a species is chosen for listing, the Service (or the National Marine Fisheries Service for most marine species) publishes a proposed rule in the Federal Register. At this stage, all interested parties are encouraged to comment and provide additional information on the proposal (generally during a 60-day comment period), and to submit statements at any public hearings that may be held. By law,

listing decisions must be based solely on the best available biological data.

Within one year of when a listing proposal is published, one of three possible courses of action must be taken:

- * A final listing rule is published;
- * If the biological information then on hand does not support the listing, the proposal is withdrawn; or
- * If at the end of one year there is substantial disagreement within the scientific community concerning the biological appropriateness of the listing, the proposal may be extended, but only for an additional six months. After that, a decision must be made on the basis of the best information available.

If approved, the final listing rule generally becomes effective 30 days after publication in the Federal Register. After a species is listed, its status is reviewed at least every 5 years to determine if Federal protection is still warranted.

In emergency situations, there is a procedure to immediately list a species for up to 240 days, while the normal listing process takes place. The Mitchell's satyr butterfly in Michigan and Indiana was protected this way.

For more information, call (612) 725-3536 Extension 244 or 246.

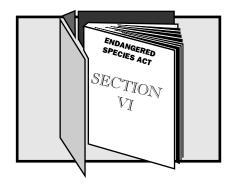
Endangered species grants

Bob Adair, Chief Division of Endangered Species

The Endangered Species Act has its own grant program - commonly referred to as Section 6. Under Section 6, the

Service is authorized to provide financial assistance to States through cooperative agreements supporting the conservation of endangered and threatened species.

The provision for cooperative agreements is one of the most important aspects of the Act, because a strong Federal-State partnership is essential for an effective endangered species program, and funding for endangered species conservation is limited.



Section 6 is not a large program. The Service provided about \$1.9 million in grants to Region 3 States for endangered species activities during fiscal years 1991-1994, including population status surveys, habitat management, taxonomy, genetic research, landowner contact programs, and

information system development.

In 1994, \$521,000 was provided to cover activities related to 40 listed and candidate species occurring in the Region. In Illinois, we provided \$16,000 to assess impacts of the flood of 1993 on decurrent false aster. In Michigan and Wisconsin, we provided \$28,500 to monitor the status of expanding populations of gray wolf.

We provided \$28,629 to Missouri to

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Interagency cooperation

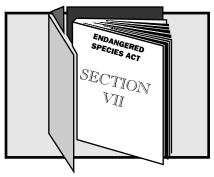
By Kate Winsor Information and Education Coordinator Division of Endangered Species

very trade has its tools. For Federal agencies, Section 7 of the Endangered Species Act (Act) can be a powerful species conservation and project planning tool.

Through a simple directive in the Act, Congress established the Federal government as the model for endangered species conservation. In Section 7, the Act requires Federal agencies in "consultation" with the U.S. Fish and Wildlife Service (Service) and National Marine Fisheries Service to insure that their actions are not likely to jeopardize the continued existence of listed species or result in adverse modification of critical habitat. The consultation process is designed to assist Federal agencies (including the Service) in complying with Section 7 requirements.

Section 7 consultation is a cooperative effort — one that seeks input from Federal Action Agencies and Applicants and involves them in problem resolution. Yet, despite this cooperative nature, Section 7 is probably surrounded with more controversy than any other section of the Act. Section 7 consultation has

resulted in well-publicized conflicts pitting endangered species against economic issues such as the Tennessee snail darter "versus" Tellico Dam, the whooping crane "versus" Two Forks Dam, the spotted owl "versus" the logging industry and, most recently in this Region, the Mitchell's satyr butterfly "versus" the U.S. Highway 31



bypass and the piping plover "versus" Cross Village Marina.

Section 7 is also a tool that defines the most misunderstood term associated with the Act: critical habitat. Without Section 7, critical habitat designation would provide little benefit to threatened or endangered species. Although many people believe designation of critical habitat creates a "national park" by decree, critical habitat is primarily protected by requiring that Federal agencies not adversely modify it.

When an Action Agency determines that their proposed project may affect listed species or critical habitat, they are required to initiate Section 7 consultation with the Service. Many consultations can and should be handled informally. Informal consultation determines the likelihood of adverse effects on listed species or critical habitat. Conflict resolutions that result from informal consultation may involve changes in construction scheduling, engineering design, and the like.

If the proposed action is likely to adversely affect a listed species or critical habitat, formal consultation is conducted. Formal consultation determines whether a project is likely to jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat. Consultation is initiated by a written request from the Action Agency to the Service. We are allowed 90 days to consult with the Action Agency on the project. During this 90-day period, we meet with the Action Agency and the applicant (if any) to gather the information necessary to prepare our Biological Opinion on the proposed action. In a Biological Opinion, we determine ramifications of Federally proposed actions to listed species or critical habitat. The determination is based on a biological assessment provided by the Action Agency. Jeopardy Biological Opinions conclude that a Federal action is likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat. No Jeopardy Biological Opinions conclude the opposite.

he purpose of consultation is to avoid or minimize impacts of a proposed project on a listed species or critical habitat. When we issue a Jeopardy Biological Opinion, we are required to include reasonable and prudent alternatives that the Action Agency can implement to avoid the likelihood of jeopardy. In addition, while preparing Section 7 documents,

Continued on next page

Grants -- from previous page

research basic ecological requirements of the Niangua darter. And in Michigan and Wisconsin, we provided \$36,000 for endangered species biologists to work with private landowners in identifying ways to conserve species on their properties.

Section 6 provides Federal and State partners the opportunity to identify common priorities and objectives in the conservation of rare species. During 1994, we developed lists of common priorities for 58 listed species and 168 candidate species.

We will use these lists, called "species priority matrices," to select individual projects for funding, and to identify joint Federal-State projects, multi-State projects, and groups of species (such as prairie butterflies) that can be addressed together in one project. This will help ensure that we use our limited funds wisely.

All of these benefits, and more, are provided through Section 6 of the Endangered Species Act. Sometimes a little bit of money, when carefully applied, can add up to big benefits for rare fish, wildlife, and plants.

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Glossary of terms used in Section 7 consultations

Action

All activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies in the United States or upon the high seas.

Applicant

Any person who requires formal approval or authorization from a Federal agency as a prerequisite to conducting the action.

Biological assessment

Information prepared on major construction activities by or under the direction of a Federal agency to determine whether a proposed Federal action is likely to adversely affect listed species or proposed species or designated critical habitat.

Jeopardize the continued existence of

To engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.

Formal consultation

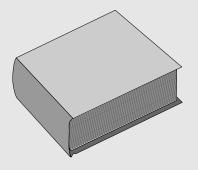
A formal consultation determines whether a Federal action is likely to jeopardize the continued existence of a listed species or likely to destroy or adversely modify critical habitat.

Biological opinion

A document stating the opinion of the Fish and Wildlife Service or the National Marine Fisheries Service on whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Informal consultation

An informal consultation is optional procedure designed to help Federal agencies determine if a formal consultation or conference is required.



Section 7 -- from previous page

biologists can make conservation recommendations that may include specific actions taken from species recovery plans. Thus, the outcome of the Section 7 process can provide creative solutions to recovery problems faced by many listed species.

Our role in the Section 7 process is advisory. The Action Agency is ultimately responsible for complying with Section 7 and must determine whether and how to proceed with its proposed action, after considering the Service's Biological Opinion. The Action Agency must give weight to the Service's biological judgment before deciding to move forward on a proposed action. Failure to explain in the administrative record how the agency addressed the Service's Biological Opinion could expose the Action Agency to a judicial challenge.

Contrary to the belief that the Act

permanently shuts down activities where endangered species are found, through Section 7 consultation with the Service, Federal agencies have been able to proceed with their activities in more that 99 percent of all cases. This statistic speaks well for the Section 7 process. Not only do projects proceed, they are able to do so while ensuring the survival of listed species, making Section 7 a truly valuable species conservation and project planning tool.

The challenge of enforcing the Act

By Bob Lumadue Senior Resident Agent Ann Arbor, MI

It's Monday morning at the Fish and Wildlife Service Law Enforcement Office. The Special Agent is heading out the door to serve a search warrant with the State of Michigan when the telephone rings. A voice on the other end of the line says, "Hey, we're glad we caught you in! This is the Michigan State police. We've got some guy down here along Interstate 94 with a live tiger and two lions in his U-haul. The conservation agent said you guys handle this stuff, so we've arrested the guy for you. Our officer will wait until you come down and take over. I've got him on the radio, what should I tell him?"

uess what folks, it's going to be one of those days! Frequently our arrestee turns out to be perfectly legal unless he or she violated an underlying State law.

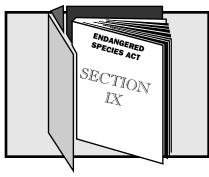
A few basic questions are asked, then the word is passed down to "tell the subject he is free to go."

Now everyone's unhappy! The dispatcher, the local conservation agent who referred the call to the Service, the arresting officer and, of course, our subject who says he "just might call his lawyer." The Special Agent is frustrated and feels he or she let the others down, knowing that if a similar situation arises in the future involving an actual violation, local law enforcement will understandably be reluctant to get involved.

While the Endangered Species Act is an extremely powerful enforcement tool, it is also a complex and confusing statute. It offers unique challenges to Special Agents and Assistant U.S. Attorney's preparing cases for prosecution.

Section 9 of the Act deals with prohibited actions.

Violating the Act is a misdemeanor that carries maximum criminal penalties of up to one year imprisonment and a \$100,000 fine per offense. The fines can be doubled for businesses or corporations.



These substantial penalties frequently deter those contemplating breaking the law. Although maximum penalties are seldom assessed in criminal prosecutions, they pose a real threat. This was vividly demonstrated in Federal court last summer in Detroit. Special Agent Tim Santel, from the Springfield, Illinois, Law Enforcement Field Office investigated a well-known insurance broker who illegally killed

and smuggled a desert bighorn sheep into the country. The judge ordered the defendant to pay in excess of \$200,000 based upon Act violations.

Prohibited actions are listed in 16 USC Section 1538. This section is well known to most Special Agents because they undoubtedly thumb through it before answering inquiries.

Unlike many drug or contraband statutes, which simply prohibit possession or use of an item, the Act is full of exceptions, exemptions, special rules, and activities authorized by permit. The section's use of the words "generally" and "except as provided in sections . . . " are enough to discourage the faint hearted; however, the section manages to neatly list the actual prohibitions. It states, "It is unlawful to: import; export; take; transport in interstate or foreign commerce, in the course of a commercial activity; sell or offer for sale, in interstate or foreign commerce; any

endangered species. It is also unlawful to possess or transport any species taken in violation of the Act."

he list of prohibited actions also applies to threatened wildlife, and endangered or threatened plants.

It's important to note that simple possession is not prohibited. Intrastate (within a state) sale is not prohibited; interstate (between or among states) sale is prohibited. Additionally, loans or donations are not prohibited.

Pre-Act wildlife is exempt from the protections set out in the Act. However, wildlife loses its pre-Act status once it is sold or offered for sale.

The Act is employed in a wide range of enforcement activities. Its ambiguities and obstacles are generally overcome with planning and experience.

Continued on next page



Evidence custodian Carmen Urfer-Parkes displays a Bengal tiger hide smuggled into the United States. The hide was recovered in an undercover investigation when an individual attempted to sell it to Special Agent Lumadue for \$20,000.

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Section 9 -- from previous page

Agents and prosecutors identify and manage obstacles as they arise. In major criminal cases, issues such as proving knowledge, proving an animal was sold and not donated, or proving wildlife was not pre-Act will always need to be overcome.

Minor Act violations, such as those involving a sale of pre-Act wildlife or noncommercial import, are frequently settled by persons simply abandoning or turning over wildlife to the government, or being issued a ticket. Other cases are resolved through a formal forfeiture proceeding involving a Regional solicitor.

The ESA not only protects species indigenous to the U.S. but also is crucial in preserving dwindling populations throughout the world. CITES (Convention on International Trade in Endangered Species), has established regulations which place international controls on endangered species. CITES has been instrumental in enabling the U.S. judicial system to join the fight in saving endangered wildlife and plants worldwide. CITES prohibits importation, exportation, and international commerce, of endangered populations and attempts to reduce the worldwide demand for such products.

Reauthorization of the Endangered Species Act is critical if dwindling populations are to be saved. Without enforcement of laws restricting commercialization or commerce in endangered or threatened populations, there is little hope of recovery for most. The Act has proven itself effective in saving dwindling wildlife populations in the U.S. and worldwide. Although it can be cumbersome and complex, the Act has enabled managers to effectively use law enforcement as a wildlife management tool. Few statutes have demonstrated such dramatic results in such a short time. With judicious application, the Act will prevail and not itself become an "endangered" Act.



Wildlife inspector Eric Holmes holds a live caiman that was seized when an animal dealer tried to illegally export it from the U.S. in Detroit.

Giving the right to take

ENDANGERED SPECIES ACT

By Lisa Mandell Fish and Wildlife Biologist Ecological Services

hen it comes to administering the Endangered Species Act it can be a little bit of give and take. One section of the Act (Section 10) deals strictly with the "take."

Take of endangered species, defined in Section 9 of the Act as "harass, harm, pursue, hunt, shoot, kill, trap, capture, or collect....", is strictly prohibited except in a few carefully

limited instances. The Act is quite specific about the types of endangered and threatened species activities that may be authorized, who may or may not take species, and what records must be kept.

Few people may know that the Act grants special authority to the Service to authorize take of endangered species in certain circumstances. The granting of permits to allow "take" represents a significant part of the work load for

Region 3's Division of Endangered Species. These endangered species permits fall into two general categories: incidental take permits and recovery permits.

Incidental take permits are needed for a proposed activity where there isn't Federal involvement, (i.e. private, State agency, county projects) and the activity may result in the take of a protected wildlife species. It is important to note that the take of plant species is only prohibited on lands under Federal jurisdiction, so a permit isn't needed for projects where only endangered plant species might be affected. For example, timber harvest and other forest management activities may result in the destruction of habitat required for an endangered animal, but taking of the wildlife is not the purpose of the activity. In this case, an incidental take permit would be required or the individual taking the species would be in violation of the Act.

Each application for an incidental take permit must be accompanied by a conservation plan. This plan addresses how the applicant will minimize and mitigate impacts to any endangered species in the project area. This is commonly referred to as a Habitat Conservation Plan, or

HCP, and is a powerful tool for resolving land-use conflicts. The HCP ensures funding for activities that are identified and demonstrates that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Several types of recovery permits may be issued for activities that are proposed to address recovery goals for the species. Applicants for recovery permits must meet certain criteria to be considered for these permits. The first of these types of permits is called a scientific take permit. Taking blood samples from a peregrine falcon for genetic

analysis, or conducting surveys of freshwater mussel beds to determine the status and distribution of endangered mussels are examples of research activities that the Service may permit to assist with recovery of the species. The Service can authorize such activities either by granting a "subpermit" to our Region 3 scientific take permit, or by issuing a separate individual scientific take permit.

Recovery permits may also be issued for what is referred to as interstate commerce. These permits authorize activities such as transporting protected species, or specimens, across state lines when such an activity relates to recovery of the species. Transportation of species or specimens may be related to educational activities, captive breeding, or reintroduction into the wild.

nternational trade of protected species is also regulated through the Convention on International Trade in Endangered Species (CITES). A CITES permit is required to import or export protected species, or their parts and products, to or from another country. These permits are administered at the national, not Regional, level

As with most Federal regulations, there are many exceptions and special rules that apply. Each proposed activity is carefully reviewed to ensure compliance with the regulations and full protection of the species involved. For more information about endangered and threatened species permits, call the Region 3 Division of Endangered Species, (612) 725-3536, Ext. 250.

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ESA in the news: the difficult job separating wheat from the chaff

Editor's note: The following are some endangered species stories that have been in the news. A summary of the allegation and our response to it were compiled by the Department of the Interior Community Education Team to help educate people on the Endangered Species Act.

What saved the bald eagle?

The allegation: "With the Fourth of July upon us, the government is engaged in a cynical attempt to link the success of the Endangered Species Act with the celebration of this nation's independence. The alleged success story is the bald eagle, whose status will be upgraded from endangered to threatened. The Act is not the main reason the bald eagle has rebounded. The greatest threat arose with the widespread use of DDT and other pesticides after World War II. We stopped and the birds are back. This may be so, but DDT was banned in 1972, one year prior to the passage of the Endangered Species Act. Therefore no relationship exists between the banning of DDT and the ESA. But linking the Fourth of July with this specious and largely phony claim of an ESA success is a cynical manipulation

How -- from Page 10

the Endangered Species Act is designed to protect all species in danger of extinction, not only those that we know a lot about and understand—otherwise we might discover their value only after it is too late.

Inevitably, attempts to judge which species are worth protecting and which are not would be lacking, as we may never know enough information about the intricate web of life. Once a species is extinct, there is no way to correct past actions to bring it back. But endangered means there's still time.

of American patriotism and reverence for our national symbol."

Houston Chronicle, July 3, 1994.

The response: "In his zeal to distance the eagle's success from the Endangered Species Act, Mr. Seaholes (the reporter) has overlooked a few key facts.

The unique safeguards provided by the Act for the eagle and its habitat are undeniable. The Act's provisions that assure safe places for eagles to nest, feed and raise young have undoubtedly accelerated the eagle's comeback.

Further, captive breeding efforts by the Service under the Act produced eagles used in early restoration efforts in the mid-1970s. Funding to State fish and wildlife agencies under Section 6 of the Act supported reintroduction of young eagles into unoccupied habitat. Thanks to those provisions of the Act, eagles now nest and raise their young in states where such activities had not been documented for decades.

Increased penalties under the Act for killing bald eagles have dramatically

curbed illegal shooting. Certainly the ban on the pesticide DDT was vital to the bald eagle's comeback. While it is true DDT was banned a year before the passage of the Endangered Species Act, the Act has been critical in restricting use of other dangerous pesticides such as dieldrin, endrin, and carbofuran, which threaten not only the health of the bald eagle, but our own as well.

If there's any cynical manipulation going on here, it is by the opponents of the Endangered Species Act, not by those of us who point with pride to the bald eagle as a genuine endangered species, and American success story."

Letter to the Editor of the Houston Chronicle from Washington Office of External Affairs, July 11, 1994.

Critical habitat and development

The allegation: When the U.S. Fish and Wildlife Service declares "critical habitat" for an endangered or threatened species, private landowners are prevented from developing their land.

Continued on next page

Endangered Species Box Score

Region 3

	Endangered	Threatened	Total* Listed Sp.	Sp. w/plans**
Mammals	4	1	5	4
Birds	5	2	7	5
Reptiles	0	0	0	0
Amphibians	0	0	0	0
Fishes	2	3	5	4
Snails	1	0	1	1
Clams	16	0	16	12
Crustaceans	0	0	0	0
Insects	5	0	5	0
Arachnids	0	0	0	0
Plants	6	17	23	13
Totals	30	23	62.	30

- * Separate populations of a species that are listed both as endangered and threatened are tallied twice. Those species are the gray wolf, bald eagle, and piping plover.
- ** There are 39 approved recovery plans for Region 3 species. Draft recovery plans are available for several other Region 3 species.

Current as of February 1995

Critical habitat designations "lock up" large sections of land, prevent most human activities and are the equivalent of setting aside wildlife sanctuaries. Critical habitat designations prevent all economic development.

The response: A "critical habitat" designation means that Federal agencies must consult with the Fish and Wildlife Service when their activities may adversely modify habitat designated as critical to the recovery of the species. If it is determined that a project will jeopardize the species, the Fish and Wildlife Service is required by the Endangered Species Act to offer "reasonable and prudent" alternatives that will protect the habitat while permitting the project to proceed. More than 99 percent of all projects do go forward. "Critical habitat" designations apply only to actions authorized, funded or carried out by Federal agencies. Critical habitat does not affect private landowners unless they plan a development project that requires Federal funding, permits, or some other action by a Federal agency. A critical habitat designation in no way sets aside an area as a wildlife sanctuary or wilderness area.



Economic development and the Act

The allegation: The Endangered Species Act has brought development across the country to a halt.

The response: Properly implemented and enforced, the Endangered Species Act successfully balances economic

needs with conservation needs -- as evidenced by the U.S. Fish and Wildlife Service's consultation record. **Endangered Species Act listings rarely** require a substantial change in plans for development. A 1992 General Accounting Office audit found that, of 18,211 consultations between 1988 and 1992, 99.9 percent went forward unchanged or with minor modifications. A Massachusetts Institute of Technology study "Endangered Species Listings and State Economic Development," completed by Stephen M. Meyer in 1994 for the Project on Environmental Politics and Policy, concluded that "... the evidence strongly contradicts the assertion that the listing of species under the Endangered Species Act has had harmful effects on State economies."

California: The 1993 fires

The allegation: People's homes burned down in California because they could not clear vegetation around their homes due to prohibitions on such clearing designed to protect the endangered Stephens' kangaroo rat.

The response: The General Accounting Office (GAO) investigated these allegations and reported to Congress in, June 1994, that the California fire was fanned by 80 mph winds, and jumped concrete barriers, highways and a canal. According to GAO, "While some owners continue to believe that disking around their homes prior to the fire would have saved their homes, we found no evidence to support these views. Homes where weed abatement, including disking, had been performed were destroyed, while other homes in the same general area survived, even though no evidence of weed abatement was present. Overall, county officials and other fire experts believe that weed abatement by any means would have made little difference in whether a home was destroyed in the California fire." Firemen said clearing hundreds of feet of ground would not have mattered, because fires of such ferocity can leapfrog more than a mile with searing ashes or hot embers. A university professor who has studied such fires declared that this fire was something that "not even the entire U.S.

Army could have stopped." Finally, GAO concluded, "On the basis of the experience and views of fire officials and other experts . . . the loss of homes during the California fire was not related to the prohibition of disking in areas inhabited by the Stephens' kangaroo rat."

California: The Kern County farmer

The allegation: A "strike force" of 25 agents swooped down by helicopter, arrested a Taiwanese immigrant farmer in Kern County, California, and seized his tractor for killing an endangered rat and other endangered species when he was unaware there were protected animals on his property.

The response: Mr. Taung Ming-Lin, an immigrant from Taiwan, paid \$1.5 million for arid property in California. In November, 1992, he was notified by registered letter from the State of California that there were endangered species (Tipton kangaroo rat, San Joaquin kit fox and blunt-nosed leopard lizard) on his property and that he needed to contact State and Federal wildlife officials to obtain permits before proceeding with development of his land. Other California landowners in similar situations have obtained such permits. In February 1994, a State fish and game representative spoke with Mr. Lin's foreman about whether appropriate permits had been obtained for developing the land, since endangered species were present. The representative advised Mr. Lin's son during the same visit of the need to gain appropriate permits and provided names of individuals to contact. He advised them that cultivation should stop until permits were obtained. Two more contacts were made by State and Federal agents advising of the need to obtain permits before a search warrant was eventually executed on February 20 by approximately four U.S. Fish and Wildlife Service agents, California fish and game wardens and biologists. No helicopters were used. Remains from endangered Tipton kangaroo rats were located. A tractor and a disc were seized under the authority of the search

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warrant. The government has elected to prosecute Mr. Lin's corporation, but not Mr. Lin.

California: The Stephens' kangaroo rat

The allegation: Ms. Cindy Domenigoni has had more than half of her farm's 3,100 acres of dry land wheat, barley, alfalfa and beef cattle severely impacted by the listing of the Stephens' kangaroo rat. She has been forced to idle 800 acres of her land due to restrictions even though her family has farmed and coexisted with the species for the last 120 years. The Federal protections afforded the rat have stripped her of her fundamental property rights, diminished her land values and drained her family's financial resources. She has incurred nearly \$400,000 in lost income and direct and indirect expenses due to kangaroo rat restrictions. (Summary of: testimony of Cindy Domenigoni before the House Merchant Marine and Fisheries Committee, July 7, 1993, in Woodland, California)

The response: The U.S. Fish and Wildlife Service is not familiar with 800 idled acres, but is aware that 400 acres of the Domenigoni farm originally

was idled when it was believed that it may have been habitat for the Stephens' kangaroo rat. A Service biologist subsequently examined the land in question and determined that the land was not kangaroo rat habitat. The Domenigoni farm was permitted to proceed with farming on the acreage, in December, 1993. Ongoing farming activities in the Riverside County area have not generally been restricted because of Kangaroo rat habitat.

California: The Stephens' kangaroo rat and home buyers

The allegation: This little rodent cost 100,000 taxpayers of Riverside County, California, \$1,950 each in "impact fees" to raise the \$103 million needed to set aside 30 square miles of habitat. Farmers lost up to half their tillable acreage. One family lost \$75,000 in annual farm income. (Source: Timber Industry Labor Management Committee).

The response: Under Riverside County's Habitat Conservation Plan for the Stephens' kangaroo rat, a mitigation fee of \$1,950 per acre of new development, not per taxpayer, is being collected to purchase permanent habitat reserves for the species, helping clear

the way for development of other areas in the county. The mitigation fee translates into approximately \$215 per home, or less than one-fourth of 1 percent of the cost of a \$95,000 home.

Florida: The Key deer

The allegation: To protect more than 400 head of endangered Key deer on 8,000 acres of Florida Keys, elementary children are bused an additional 30 miles around the habitat. A plan to build a school at a closer location has been stalled because of opposition by environmental groups. (Source: Timber Industry Labor Management Committee).

The response: The Florida Key deer, listed as endangered in 1967, inhabits some 26 Islands in the lower Florida Keys. The herd currently numbers between 250 and 300 deer. Big Pine Key is believed to support two-thirds of this population due to its size, predominance of pine land and yearround availability of fresh water. The deer need to cross U.S. Highway 1 to gain access to seasonal fresh water and to maintain genetic diversity. More deer are killed each year by vehicles (60 to 65) than are being replaced by the herd, and half the deaths occur on U.S. Highway 1. In an effort to satisfy the recovery plan goal to establish underpasses and overpasses so the deer may safely cross the highway, the Service's Key Deer Recovery Team needed to locate two areas that could be used as corridors. The proposed school is planned directly over one of the corridors. The Service opposes building the school at the suggested site. The suggested school site is also opposed by the State department of community affairs, State game agency, county planning department and State and local conservation groups. Alternative school sites are available both on Big Pine Key and within seven miles of Big Pine Key.

Florida: The scrub jay

The allegation: In Florida, a person's home is not his castle when it comes to the Florida scrub jay. More than 250 landowners (were) warned not to alter or remove underbrush from their property because "any activity which

Continued on next page

Fiscal	Informal	Formal	Jeopardy	Jeopardy/	Blocked
Year			Opinions	Formal (%)	Actions
1987	2,480	2	0	0%	0
1988	3,340	7	1	14%	0
1989	3,303	2	0	0%	0
1990	2,925	3	0	0%	0
1991	2,695	4	2	50%	0
1992	3,050	8	2	25%	0
1993	4,890	8	1	13%	0
1994	7,864	8	2	25%	1
Total	30,547	42	8	19%	1
		Nationally	y (1987-92)		
Fiscal	Informal	Formal	Jeopardy	Jeopardy/	Blocked
Year			Opinions	Formal (%)	Actions
1987	7,944	305	29	10%	1
1988	12,453	322	21	7%	1
1989	16,412	447	170	38%	2
1990	15,936	356	29	8%	2
1991	18,815	572	79	14%	47
1992	22,553	717	24	3%	1
Total	94,113	2,719	352	13%	54

destroys scrub occupied by scrub jays may violate (the law)." Touch that scrub and you may land in jail for up to 1 year and pay up to \$10,000 in fines. (Source: Timber Industry Labor Management Committee).

The response: Letters were mailed to a large number of property owners in Florida explaining how they may obtain authorization to proceed with development plans. The letters contained information, not threats. Since the beginning of that initiative, hundreds of authorizations to proceed have been issued by the U.S. Fish and Wildlife Service in Jacksonville, and many of those were granted within a week of the request. Brevard County has requested and received a congressional appropriation to fund a Habitat Conservation Plan, which, when approved by the Service, will solve development conflicts in that county as they relate to scrub jays. Other large projects have proceeded with HCPs or were resolved without a need for permits. Overall, public reaction to the scrub initiative has been one of acceptance and cooperation. The Endangered Species Act has been used to its fullest to help solve conflicts related to this species.

North Carolina: Timber and the red-cockaded woodpecker

The allegation: When the endangered red-cockaded woodpecker arrived on Ben Cone's property in North Carolina, the Endangered Species Act put 1,000 acres of his land off limits to him. He has spent \$8,000 on biologists to make sure he is following the stringent rules and figures he has lost \$1.8 million in timber that is tied up in the protected zone. To protect his remaining land from being occupied by the bird and consequently falling under Federal land



control, Cone had no choice but to change his timber management practices to try to harvest the pines before they become old enough to attract woodpeckers and prevent him from using the rest of his land. (National Wilderness Institute, Endangered Species Blueprint).

The response: Mr. Cone was initially offered the option of developing a Habitat Conservation Plan, which allows incidental take of an endangered or threatened species in pursuit of otherwise lawful activity — such as logging. Many organizations and developers are participating in such plans. Mr. Cone declined. In the meantime, he did submit a management plan to the U.S. Fish and Wildlife Service in Atlanta, which was approved. He is managing his land, and logging it.

North Carolina: The U.S. Army and the woodpecker

The allegation: The U.S. Army can defend against the armies of Saddam Hussein, but they are losing their battles with the red-cockaded woodpecker. Several areas of Fort Bragg, North Carolina, have been closed and construction of a needed maintenance division complex is on hold because of this bird, which may also threaten harvest of the Southern Forest. Some call the red-cockaded woodpecker the spotted owl of the future (Source: Timber Industry Labor Management Committee).

The response: There are 182 million acres of timberland in the South (90 percent privately-owned and 10 percent, Federal and State-owned). The U.S. Fish and Wildlife Service estimates that between 500 and 1,000 groups of redcockaded woodpeckers may still survive on private lands. Based on the current habitat guidelines for red-cockaded woodpeckers, 1,000 groups would require 60,000 acres (i.e., 60 acres per group), or less than 1 percent of the total private timberland in the South. This is not considered a threat to the Southern Forest, which has already been harvested three complete times. Construction of the Army's maintenance division complex has gone forward at Fort Bragg following completion of the consultation process with the Service, and no necessary training activities have been stopped because of endangered or threatened species. In the case of the Army projects, consultation was the key. Endangered Species Act listings rarely require a substantial change in plans for development. A 1992 General Accounting Office audit found that of 18,211 consultations between 1988 and 1992, 99.9 percent went forward unchanged or with minor modifications.

Oregon: Owls versus Jobs

The allegation: "We'll be up to our neck in owls, and every mill worker will be out of a job," George Bush predicted two years ago, while campaigning in the Northwest.

New York Times, October 11, 1994.

The response: "Economic calamity has never looked so good. Three years into a drastic curtailment of logging in Federal forests, Oregon, the top timberproducing State, has posted its lowest unemployment rate in a generation, just over 5 percent. In the last five years, Oregon lost 15,000 jobs in forest products. But it gained nearly 20,000 jobs in high technology . . . and timber workers are being retrained for some of iobs. particularly manufacturing. "Owls versus jobs was just plain false," said Mr. Morrisette (mayor of Springfield, Oregon). "What we've got here is quality of life. And as long as we don't screw that up, we'll always be able to attract people and business." What was billed as an agonizing choice of jobs versus owls has proved to be neither, so far."

New York Times, October 11, 1994.

Oregon: The butterfly and the golf course

The allegation: In a cover story entitled, "The Butterfly Problem," in the January, 1992 issue of *The Atlantic*, the authors portrayed an Oregon developer whose lifelong dream of carving fairways on a section of the Oregon coast was snuffed in the morass of Endangered Species Act protection of an endangered butterfly.

The response: U.S. Fish and Wildlife Service personnel helped the developer obtain an incidental take permit under the Endangered Species Act,

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recognizing that development of a Habitat Conservation Plan in connection with the golf course would assist the long-term survival of the butterfly. The developer, however, was unable to satisfy Oregon's land use planning laws on grounds unrelated to the ESA, and the project was abandoned.

Texas: Endangered species lower property values

The allegation: The presence of endangered species has lowered property values in Texas.

The response: This allegation is frequently associated with anecdotal reports from individual landowners or with a study conducted by the Texas and Southwestern Cattleraisers Association. Land values in the Austin area, to cite one example, did decline after the mid-1980s, but most of that decline occurred in 1987 because of the Savings and Loan crisis. The goldencheeked warbler — the species usually blamed for the loss of property values - was not listed as endangered until 1991. The study by the TSCRA purported to show that land values in 33 Texas counties affected by endangered species listings had declined more than land values in other Texas counties. This study was analyzed by Dr. Stephen Meyer of the Massachusetts Institute of Technology (MIT), who found that TSCRA had analyzed the economic data incorrectly and that the data did not in fact support the conclusion that property value declines were associated with the presence of endangered species.

Texas: Critical habitat and the golden-cheeked warbler

The allegation: The U.S. Fish and Wildlife Service proposed 20 million acres in 33 Texas counties as critical habitat for the golden-cheeked warbler.

The response: The Service never had plans for any proposal of the magnitude described above. There are less than 800,000 acres of potential warbler habitat in the entire State of Texas. Secretary Babbitt announced in October 1994 that designation of critical habitat would not be necessary for the conservation of the species if habitat conservation plans were put into place.

Work on those plans is proceeding.

Texas: Species stalls real estate sale

The allegation: Margaret Rector owns 15 acres of commercially zoned property in Travis County, Texas, which is habitat for the golden-cheeked warbler. Because an endangered species is present on her property, she is unable to either develop or sell it. Since the land cannot be developed, the value of the acreage has declined and Ms. Rector alleges she has not only lost a good deal of money, but now cannot find a buyer at all because of the presence of an endangered species on her land.

The response: The U.S. Fish and Wildlife Service informed Ms. Rector that development of her property required a permit under either Section 7 or Section 10 of the Endangered Species Act. No application for such a permit has been received. Land values in the Austin area declined significantly in the wake of the Savings and Loan crisis and the majority of the area's property value decline occurred at that time, prior to the listing of the golden-cheeked warbler. It is true that buyer concern about the presence of endangered species has been an issue in Austin real estate The proposed Balcones Canyonland Conservation Plan would address problems such as that experienced by Ms. Rector.

Texas: The widow's story

The allegation: In testimony before the Senate Environment and Public Works Committee in April, 1992, a representative of the National Cattlemen's Association told of a widow near Austin, Texas, who wanted to clear her fencerow of brush, only to be threatened with prosecution by the U.S. Fish and Wildlife Service.

The response: The woman was advised by the Service that her clearing of a 30-foot wide, one mile-long fencerow might harm endangered songbird nesting habitat, but after Service representatives met with her and assessed the situation, she was given the go-ahead to clear the fencerow.

Texas: Cedar and private land

The allegation: The U.S. Fish and Wildlife Service sues private

landowners in Texas who try to control cedar on their property.

The response: The Service supports private property rights and has repeatedly said that control of cedar regrowth and ongoing ranching practices do not harm the habitat of the golden-cheeked warbler.



Utah: Domestic geese and the Kanab ambersnail

The allegation: The U.S. Fish and Wildlife Service forced domestic geese in Utah to vomit to see if their stomachs contained endangered Kanab ambersnails. The landowner was threatened with a fine of \$50,000 for each snail eaten by a goose. (Source: National Wilderness Institute, Endangered Species Blueprint).

The response: Some geese were removed from a pond inhabited by Kanab ambersnails. None were forced to vomit, nor was anyone threatened with a fine for snails consumed by the geese.

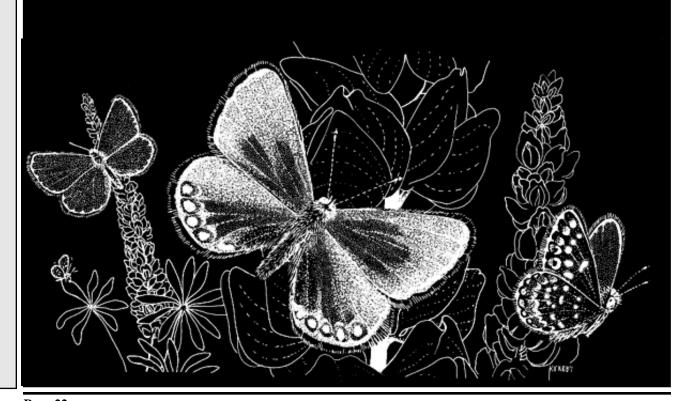
The tuna cave cockroach

The allegation: The next thing you know, they'll try to put cockroaches on the endangered species list. Too late. They already have. The tuna cave cockroach found in Puerto Rico is a candidate for inclusion on the list. At least 40 percent of the candidates for endangered species are rodents, beetles, snails and moths. It will require \$144 million to list and study these candidates. (Source: Timber Industry Labor Management Committee).

The response: The tuna cave cockroachis not on the list of Endangered and Threatened Plants and Animals. It is on the candidate list, but the U.S. Fish and Wildlife Service has spent no money on the species. Rodents, beetles, snails and moths comprise 36 percent of the candidates for listing, and it is estimated that the study and listing of all 619 species would cost \$19.6 million, not \$144 million.

"... we are destroying the Creation."

Edward O. Wilson
The Diversity of Life



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ESA reauthorization issues

Editor's note: A wide variety of groups and interests have identified issues they will focus on during the reauthorization of the Act. Many of these issues are identified in the bills introduced in Congress. The issues cover virtually every aspect of the Act and its implementation. The following summarizes the major issues raised by various interests.

- 1. Socioeconomic Concerns Need to be Considered -- This issue is based on arguments that the Act needs to balance socioeconomic concerns. It results from problems faced by the timber industry of the Pacific Northwest and on land use problems in areas like Austin, Texas, Clark County, Nevada, and the coastal scrub habitat of southern California. This issue also reflects concerns about the costs of complying with the recommendations of interagency Section 7 consultations.
- 2. Private Property Rights Need to be Protected -- This issue is based on arguments that the Act needs to consider the rights of private property owners. It reflects concerns that threatened and endangered species eliminate the right of landowners to use their private property without compensation. It also reflects concerns that the presence of threatened or endangered species on private land diminishes the value of that land to its owners.
- 3. Ecosystem Approaches to
 Avoid Crisis Management Need to
 be Taken -- This issue is based on
 arguments that ecosystems should be
 managed, restored, and reconstructed
 to prevent species from needing
 protection under the Act. It reflects
 the view that most recent
 species listings result from
 the destruction or
 degradation of the nation's
 ecosystems. It also reflects
 the view that the most
 appropriate way to avoid
 the conflicts associated

with endangered species conservation is to use mandates and authorities at Federal, State, and local levels, and private cooperation to manage and restore the nation's ecosystems in ways that maintain the health of the plants and animals that depend upon them.

- 4. The Ability of the Act to
 Achieve its Goals Needs to be
 Improved -- This issue is based on
 arguments that the Act does not work
 and cites its failure to recover species
 and remove them from the list of
 threatened and endangered species.
 This is based on those occasions when
 the Act failed to protect endangered
 species or when species have gone
 extinct while protected by the Act.
 This issue is also based on the small
 number of species that have been
 recovered and removed from the list.
- 5. Species Conservation on Private Lands Needs to be Improved -- This issue is based on arguments that conservation of threatened and endangered species on private lands needs to be facilitated and on concerns about the lack of incentives for private landowners to conserve listed species. It is also based on the shortage of funding to

support habitat conservation planning, which is part of a process available for members of the public to get exemptions from the take prohibitions of the Act.

- 6. Partnerships with States Need to be Stronger -- This issue is based on arguments that State fish and wildlife and natural resource agencies need a stronger role in implementing the Act. There are concerns that states are not sufficiently involved in the listing and recovery of Federally-listed species.
- 7. The Scientific Basis for Listing **Decisions Needs to be Improved --**This issue is based on arguments that the process of listing species as threatened and endangered under the Act needs to be based on better science. It reflects the perception that species are listed without objectively evaluating the best data available and that data is treated differently depending upon its source. For example, data from private interests are evaluated more critically than data from natural resource agencies. In addition, this issue reflects arguments against allowing subspecies or populations to be protected under the Act.
- 8. The Recovery Planning
 Process Needs to be Enhanced -This issue is based on arguments that
 the process for planning a species'
 recovery needs to be enhanced. This
 concerns the amount of time it takes
 to recover a species from
 endangerment.
- 9. The Cost of Species Recovery is Too High --This argument cites estimates of the dollar value placed on recovering all threatened and endangered species. Based upon those estimates, some conclude that our society cannot afford the price of protecting and conserving endangered species.

10. The Listing Process Needs to be Streamlined -- This issue is based on arguments that the

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Exemptions for small landowners proposed

The 10-point 'guideposts for reform' would give more authority to States

Editor's note: On March 6, 1995, Secretary of the Interior Bruce Babbitt and Dr. D. James Baker, Undersecretary of Commerce for Oceans and Atmosphere, released a set of ten principles designed to balance endangered species protection with economic development. The proposal brings significant change to the way the Endangered Species Act is implemented and is the third in a series of administrative changes to the ESA.

or the first time, significant exemptions would be granted to small property owners. The Administration has proposed new regulations that would grant general exemptions from Endangered Species Act enforcement to most activities on single home residential tracts and for other activities that affect less than five acres.

The Administration package identifies ways to establish a new cooperative relationship with the States, and would require greater scrutiny of the scientific analysis supporting endangered species decisions.

The list of principles reflects the Administration's commitment to minimize impacts on landowners, grant greater authority to States and local governments, make implementation of the law simpler and more efficient and improve the recovery rate of species.

"Under this plan, States would have greater ability to guide species protection and recovery within their borders," said Baker. "Science would be assured a stronger place in decision-making. Small landowners would encounter more flexibility and less regulation. And all landowners would be encouraged to provide good habitat for listed species and not be penalized for doing so."

"These principles are guideposts for reauthorization should this Congress decide to move forward on endangered species issues," said Babbitt. He added that the principles reflect the Administration's efforts to respond to the concerns of private landowners and the States.

"Make no mistake about it, the Endangered Species Act is as American as apple pie," said Babbitt. "It has preserved our rich and diverse natural heritage. It has ensured that the next generation of Americans can inherit a land as beautiful as the land we so love."

"As reauthorization of the Endangered Species Act gets under way, any proposal for change must pass an important series of tests," said Babbitt. "Will it kill bald eagles? Will it lead to the deaths of whooping cranes or grizzly bears? Will it harm the greenback cutthroat trout? Each proposed change comes with a responsibility to prove that our great natural heritage will not be squandered."

"As changes to the law come under consideration, a key need is to balance species protection with the rights of private property owners," said Babbitt. "These principles outlined build on our initiatives to reduce the conservation burden on small landowners and show the Administration is serious in its efforts to balance the rights of individual landowners with the community's right to a healthy environment."

"If Congress chooses to reauthorize the Act, they should attack the Act's problems like a laser beam, while still leaving intact the law's effectiveness," said Babbitt. "A heavy-handed approach to change, as some on the Hill are suggesting, will only diminish our ability to protect species that are an essential part of the American landscape. Americans don't want that to happen."

Critics of the Act claim that individual landowners are forced to bear an unfair burden for the recovery of particular species. They point to small landowners who may be prevented from developing lands they assumed would pay for their retirement. Babbitt and other Administration officials have acknowledged their plight.

"The fact is, the Endangered Species Act has caused difficulty for some small landowners who have protected species on their property," said Babbitt. "We're saying small landowners should be exempted from conservation burdens on the basis of fairness and biology. Most species won't survive on small tracts of land and it's not fair to tie up small landowners."

To begin putting this principle into effect, the Administration will propose regulations that exempt land use activities by private owners that individually or cumulatively have no lasting effect on the survival and recovery of a threatened species. Activities on tracts of land occupied by a single household and being used solely for residential purposes and activities that affect five acres of land would be presumed to have only negligible adverse affects. Thus, in most circumstances, these small tracts of private property would be exempted from Endangered Species Act restrictions for threatened species. Congress could extend similar relief to restrictions on endangered species.

n 1994, the Fish and Wildlife Service and the National Marine Fisheries Service (NMFS) issued a policy directive requiring that State expertise and information be used in prelisting, consultation, recovery and conservation planning. The directive referred specifically to the expertise in State fish and wildlife agencies.

To bolster that effort, Congress would need to provide individual States with greater opportunities to retain full authority for management of species if the State takes action to conserve species at various stages during the listing or recovery processes.

In addition, Congress would need to give States the opportunity to assume the lead responsibility for recovery and for issuing habitat conservation planning permits to non-

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New assurance means no surprises for landowners

Editor's note: On August 11, 1994, the Clinton Administration announced a significant change in policy which gives more economic certainty to landowners involved in reconciling endangered species



conservation with land use development. This was the second in a series of administrative changes to implementing the Endangered Species Act.

Landowners who have endangered species habitat on their property and agree to a Habitat Conservation Plan (HCP) under the Endangered Species Act will not be subject to later demands for a larger land or financial commitment if their plan is adhered to. This applies even if the needs of the species change over time. The term of an HCP can be as long as several-decades.

"We're telling landowners that a deal is a deal," Babbitt said. "This 'no surprises' policy says that, if in the course of development or land use you invest money and land into saving species, we won't come back ten years from now and say you have to pay or give more."

"The key issue for non-Federal landowners is certainty," said Babbitt. "They want to know that if they make a good faith effort to plan ahead for species conservation, and do so in cooperation with the relevant agencies, then their plan won't be ripped out from under them many years down the road."

"We'll work with State, municipal and private landowners to set the rules," said Babbitt. "This assurance policy makes it clear that we won't change those rules in the middle of the game."

"This is a good example of how the Department of Commerce as represented specifically by its National Oceanic and Atmospheric

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Guideposts -- from previous page

Federal landowners.

The Administration's fiscal year 1996 budget proposes more than \$27 million for cooperative habitat conservation partnerships with States.

To encourage what it terms "sound and objective science," the Administration began requiring the Service and NMFS to seek independent scientific peer review of all proposals to list species and draft plans to recover species. They have also established more rigorous standards for the kinds of scientific information used in making ESA decisions.

In addition, the Administration has drafted guidelines that set tougher listing petition standards. The action places more burden on the petitioner to show that there is substantial information to propose a species for listing.

Administration officials released a lengthy set of documents detailing the following ten principles:

- 1. Base ESA decisions on sound and objective science.
- 2. Minimize social and economic impacts.

- 3. Provide quick, responsive answers and certainty to landowners.
- 4. Treat landowners fairly and with consideration.
- 5. Create incentives for landowners to conserve species.
- 6. Make effective use of limited public and private resources by focusing on groups of species dependent on the same habitat.
- 7. Prevent species from becoming endangered or threatened.
- 8. Promptly recover and delist threatened and endangered species.
- 9. Promote efficiency and consistency.
- 10. Provide State, tribal and local governments with opportunities to play a greater role in carrying out the ESA.

In documents supporting the principles, Administration officials explained the specific problem each one was designed to resolve. In some cases, they noted previous Clinton Administration actions that address the problem and requested that Congress codify those changes. In others, they noted that congressional action would be required to meet the principle. In still other cases, both steps are requested.

For example, to meet the principle that would "minimize social and economic impacts," officials said both administrative and congressional action would be required. On the administrative front, the Service and NMFS issued a 1994 policy directive on recovery planning that enables affected groups and stakeholders to participate in developing recovery plans for listed species. On the legislative front, Congress would need to provide greater flexibility in the management of threatened species.

The initiatives outlined build on the Administration's continued efforts to involve private landowners in conservation programs. In the ten years prior to the Clinton Administration, 15 habitat conservation plans (HCPs) were in effect. That number has grown to 45 in just two years, and more than 150 additional HCPs are in planning stages.

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Administration (NOAA) is working with other Federal agencies to make the Endangered Species Act work more effectively," said Secretary of Commerce Ronald H. Brown.

"While the Habitat Conservation Plans may not be appropriate in every case, where used, they will provide certainty for businesses that need to address long-term planning and, at the same time, provide the flexibility needed to meet the long-term needs of various species," said NOAA'S Undersecretary for Oceans and Atmosphere, Dr. James Baker.

OAA's National Marine Fisheries Service (NMFS) and the Fish and Wildlife Service are the two Federal agencies responsible for enforcing the Endangered Species Act. As such, they are also empowered to approve HCPs.

"Successful habitat conservation plans are win-win situations -- economic activity continues and our heritage is protected for future generations to enjoy," said John Sawhill of The Nature Conservancy.

"This new initiative may resolve the business community's most intractable concerns about the Endangered Species Act," said Jim Whalen, a spokesperson for the Alliance for Habitat Conservation, a group of major landowners holding more than 70,000 acres in San Diego County,

"A major impediment to property owner participation in a Habitat Conservation Plan is the fear that, after the costs and resource management restrictions of the plan are accepted, the rules will change and the entire matter will be reopened," said Don Christiansen, Chairman of the Western Urban Water Users Coalitions. "This policy sets an important new direction by which the key Federal agencies are committing to stand by their agreement. In the West, we value that commitment."

"Private forest landowners need stability and certainty to make the long-term investments necessary to manage private forest lands," said Charley Bingham, Weyerhaeuser Company's Executive Vice President. "We commend the Secretaries for advancing ideas that will help provide stability for forest landowners who develop and implement habitat conservation plans."

Babbitt and Baker said the new policy was spurred by private, State and municipal landowners, who have complained that, despite their willingness to work with the Federal government to protect species on their land, the Federal government had been reluctant to assure them that an HCP would not be reopened or changed at any time.

The new policy assures that landowners participating in a single- or multi-species HCP will not be subject to additional restrictions or costs at a later time, even if unlisted species adequately covered under the terms of an HCP are subsequently listed as endangered or threatened. If extraordinary circumstances subsequently indicate the need for additional action to protect such species, the new policy states that the obligation for additional action shall not rest

with an HCP permittee.

HCP's are authorized under section 10(a) of the Endangered Species Act as a means of reconciling endangered species conservation and habitat protection with private land development that might otherwise be impossible without violating the Act. An HCP requires a landowner to develop a long-term, private conservation program for listed species affected by development or land use, and involves private financial contributions to help implement the plan.

Landowners participating in and abiding by the plan are covered by incidental "take" permits which gives them immunity from prosecution if a threatened or endangered species is accidentally killed or harmed during construction or land use activities within the boundaries of the HCP.

"This new policy will be good for the endangered species program because it will encourage developers to make substantial commitments to HCP's," Babbitt said. "At the same time, it will be good for the private landowners because they will be assured that they will have time to complete significant development projects or to manage their lands with certainty for years to come, without the possibility of facing additional costs or restrictions for endangered species protection."

Under the new policy, if additional mitigation measures are subsequently deemed necessary to provide for the continued existence of a species in the wild, the primary obligation for such measures shall not rest with an HCP permittee who has been complying in good faith with his or her obligations.

If NMFS or the Service concludes that extraordinary circumstances warrant the requirement of additional mitigation from an HCP permittee, such mitigation shall be limited to modifications within conserved habitat areas or to the HCP's operating conservation programs for the affected, species.

dditional mitigation requirements shall not apply to the payment of additional financial compensation or to parcels of land available for development or land use under the original terms of the HCP without the consent of the HCP permittee.

"Our point is a simple one," said Babbitt. "If we've made a deal, and if it's being implemented according to the criteria set forth in that plan, we're not going to be asking for more money or more land."

NMFS and the U.S. Fish and Wildlife Service will have the burden of demonstrating that extraordinary circumstances exist, using the best data available. The agency findings must be clearly documented and based upon reliable technical information regarding the status and habitat requirements of the affected species.

The Fish and Wildlife Service has completed a handbook, "Policy and Guidelines for Habitat Conservation Planning and Processing of Incidental Take Permits." This new handbook will serve as a guide for Service employees engaged in the negotiation of HCPs.

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Changes can make ESA user friendly, improve benefits to any at-risk species

On June 14, 1994, Secretary of the Interior Bruce Babbitt and D. James Baker, Undersecretary of Commerce for Oceans and Atmosphere announced the first in a series of policies intended to improve the Endangered Species Act's effectiveness and make it easier for Americans to work with and understand. These changes in the way the Federal government administers the Act will make it more effective in recovering listed species and enhance its flexibility for businesses and private landowners.

Among changes announced are policies that:

- * Increase the focus on social and economic impacts during recovery.
- * Require independent scientific peer review of listing decisions.
- * Require prompt identification of activities on private lands that are affected by each listing decision.
- * Promote cooperative, ecosystem-based approaches to conserve listed and candidate species before crises arise.
- * Emphasize the need to use the best available scientific and commercial information in making decisions under the Act.
- * Promote a closer partnership between Federal and State agencies in implementing the

President Clinton has also asked the Departments of Interior and Commerce to convene an interagency working group to recommend additional ways to improve administration of the Act.

"This Administration is committed to an Endangered Species Act that works," said Babbitt. "These changes reflect the growing recognition that we must act more effectively to preserve this country's endangered species, but we must do it in a way that involves all Americans who have a stake in the outcome."

"Our commitment to the principles of the Endangered Species Act is a reflection of the high value we place on biological diversity," said Baker. "Without compromising our ability to protect unique plants and animals, we have found many ways to implement this Act and lessen the impact on local communities and cultures."

nother focus of the new policies is strengthened cooperation between the U.S. Fish and Wildlife Service and the National Marine Fisheries Service, as well as closer communication and cooperation with other Federal agencies, State and local officials, nongovernmental groups and private citizens.

To ensure the scientific analysis of information used by the Services to list and recover species is as comprehensive as possible, the policy on peer review requires the Services to solicit expert opinions from specialists to analyze the data on which listings are based. The peer review process will also be used during development of recovery plans.

y law, decisions under the Endangered Species Act must be made on the best available scientific and commercial information. "The two new information policies lend further credence to our commitment to sound decision-making," said Baker.

Under the policy focusing on social and economic effects of recovery planning, the composition of recovery planning teams is expanded beyond the scientific community to include other areas of expertise. The Services have always solicited public input during recovery planning. However, including representatives of local interests on recovery teams ensures recovery decisions are both scientifically sound and sensitive to human needs. The goal is to identify potential economic disruption caused by recovery activities earlier in the planning process.

The private land policy requires the Services to identify

those actions permissible under the Act and those that could be violations. This information would be provided in the final listing rule, along with a Service contact for landowners uncertain about activities not delineated in the rule.

The State and Federal coordination policy ensures that

the Services consult with states on candidate species identification, monitoring, and development of prelisting actions; listing decisions; and recovery activities, including development of recovery plans.

"This is the beginning of an ongoing process to identify changes we can make under existing authority in how the Act is implemented," Babbitt said. "The steps we have taken today are a sign that we are serious about improving this Act."

"This administration is committed to an **Endangered Species**

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Act that works."

Questions and answers from Senate oversight hearings on the Act

Editor's note: The following are questions and answers from the Senate oversight hearing on the Endangered Species Act, June 15, 1994. They are included here as an example of what questions may again be raised by current members of Congress as they move toward reauthorization of the Act.

- 1. How many species in the United States are listed as threatened and endangered? There are 468 species of plants and 418 species of animals listed as threatened and endangered (as of June 1994). Also, 90 species of plants and 25 species of animals have been proposed for listing as either threatened or endangered (as of April 1994).
- 2. What is the number of species for which critical habitat has been designated and the number of pending critical habitat designations? Critical habitat has been designated for 111 species and proposed for 12 species. These numbers are for both the U.S. Fish and Wildlife Service and National Marine Fisheries Service.
- 3. How many species are listed as candidate species? There are 238 species of plants currently listed as Category 1 candidate species (as of April 1994), and 57 species of animals (as of May 1994). Also, there are 1,697 species of plants listed as Category 2 candidate species (as of April 1994), and 1,800 species of animals (as of May 1994).
- 4. How many consultations have been conducted under Section 7 of the Act? From 1988-1994, more than 118,000



informal Section 7 consultations and 2,071 formal consultations were completed on Federal actions. Of that total, 341 (17 percent) resulted in jeopardy opinions. Only 18 of those projects (0.9 percent) had no reasonable and prudent alternatives and did not go forward as planned.

5. How many habitat conservation plans have been approved, resulting in incidental take permits for listed species? Permits have been issued for 28 conservation plans. Additionally, permits have been issued for 11 amendments to existing conservation plans.

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process for adding species to the lists of threatened and endangered species needs to be streamlined, citing examples of species that continue to decline while waiting to be listed.

11. Designation of Critical Habitat Needs to be Expanded --

This issue is based on critical habitat having been designated for only a small percentage of the species listed as threatened or endangered and on the amount of time it takes to designate critical habitat once a species is listed.

12. Enforcement Needs Improvement -- This issue is based on arguments that the enforcement provisions of the Act need to be strengthened against take of threatened and endangered species.

13. Species Need Global Conservation -- This issue is based

on arguments that the United States government should not jeopardize the continued existence of listed species through its actions in other countries. It reflects the view that Federal agencies whose actions may affect threatened and endangered species in foreign countries should conduct Section 7 consultations on their actions overseas.

14. Funding Needs to be

Increased -- There are arguments that, without substantial increases in funding, the Service will continue to have difficulty meeting the mandates and purposes of the Act. This issue reflects the view that the Act should be amended to significantly increase the authorized appropriations over the next five years

15. The Service Management of Petitions Needs to be Clarified and Improved -- This issue is based on

inconsistencies in petition management and petition findings among Regions that have created problems and inequities for petitioners. Section 4(b)(3) of the Act allows interested persons to petition the Service to add or remove species from the list of threatened and endangered species.

16. Effects on Wildlife Management Activities and Sport Hunting Need to be Minimized --

There are arguments that the Act is beginning to threaten traditional wildlife management activities and hunting and fishing opportunities. This is based on concern that the listing process does not consider effects on hunting and fishing and that the prohibitions against take of listed species may result in criminal prosecution of fish and wildlife officials who are conducting wildlife habitat projects.

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- **6.** How many incidental take permits are pending? Approximately 100 conservation plans are in some stage of development.
- **7.** How many listed species have approved recovery plans? There are 517 (60 percent) listed species with approved recovery plans.
- **8.** How many listed Species have recovery plans under development? Recovery plans for 337 species (38 percent) are currently under development.
- 9. What is the estimated rate of recovery for listed species? It depends upon the species and its status at the time it was listed. Given that humans had more than 400 years to cause many of the listed species to become threatened or endangered, stabilizing those species and preventing their immediate extinction is a major accomplishment for 20 years of effort.

merican alligators, the Palau dove and the Rydberg milk-vetch no longer need the Act's protection and have been removed from the list of threatened and endangered species. We will be removing the Pacific gray whale from the list of threatened and endangered species very soon. The status of 40 percent of these species has actually increased or stabilized. The Endangered Species Act has been responsible for improving populations of declining species throughout the United States and has been the focus of international conservation efforts. The bald eagle, peregrine falcon, grizzly bear, eastern timber wolf, whooping crane, black-footed ferret, Columbian white-tailed deer, and greenback cutthroat trout have been recovered from the brink of extinction and are approaching recovery. California condors and red wolves have been returned to the wild and are improving dramatically.

10. How would the new policy on recovery planning and implementation work? It's envisioned that recovery teams will be organized into two groups that will work interactively and concurrently. One group will be responsible for identifying the biological and ecological goals and objectives to recover the species considered in a recovery plan. The second group will be responsible for identifying how those goals and objectives can be achieved by implementing recovery actions. The specific guidance that informs the Service how to comply with the policy would be developed.

The first work group would consist largely of specialists in the species being considered or the ecosystems that support the species. The second work group would consist of a broader range of expertise including stakeholders.

11. How would the controversy surrounding the listing of the coastal California gnatcatcher have been resolved if these six policies had been in place when the species was proposed for listing? The listing of the coastal California gnatcatcher is actually a testimony to the peerreview process despite the current controversy surrounding the listing decision. Dr. Atwood's initial report underwent an extensive peer review process that was critical of his initial findings. His second publication reflected the comments and

information through the initial peer review. His revised conclusions were published in a peer-reviewed scientific journal that further validated his final conclusions. This journal article formed the basis of the listing proposal. When a scientist's data has gone through that kind of scrutiny, it isn't standard for the scientific community to require an author to provide the raw data or field notes upon which his or her conclusions were based. The Service simply accorded Dr. Atwood the professional courtesy he had earned and deserved.

The policies on peer review and information standards do not establish a more rigorous review process than articles published in professional scientific journals currently undergo. It does require the Services to take specific steps to have their own listing and recovery packages reviewed by independent scientists prior to publication.

California's Natural Communities Conservation Planning effort, which formed the basis for recovery of the coastal California gnatcatcher, was a model for the policies the Service is announcing on recovery planning, on ecosystem approaches, and on the role of the States in Act activities. I believe the kind of local involvement and approach to the entire coastal sage scrub ecosystem that is integral to California's effort is how the Department must approach recovery in the future. These policies reflect the lessons we have learned from our participation in that process.

- 12. How would the controversy surrounding the listing and recovery of the Northern Spotted Owl have been resolved if these six policies had been in place since 1989, when the species was proposed for listing? These policies would probably not have affected the listing of the Northern Spotted Owl since almost everything about that species receives more scientific scrutiny and peer review than any other listed species. However, the policies on recovery planning would have affected how we developed the recovery plan for the owl. Representatives from timber industries and individuals from affected communities would have had more opportunities to participate in the formulation of options for how recovery for that species should be accomplished.
- 13. How will the policy on recovery help the situation facing the people of Austin, Texas, who are dealing with species associated with the Edwards Aquifer? As recovery plans are developed for newly listed species, revised for species with currently approved recovery plans, or a comprehensive ecosystem recovery plan is developed for the Edwards Plateau, expanded participation on recovery teams using the expertise of stakeholders would ensure that implementation of recovery plans would be accomplished providing for timely recovery of the species while minimizing social and economic impacts.
- 14. How will this policy on recovery planning and implementation help get species off the list of threatened and endangered species? By development of recovery teams with members selected for their expertise in all fields necessary to ensure that species' needs and the most appropriate methods for recovery plan implementation are

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Hearings -- continued from previous page

meshed. Expanded participation using the expertise of stakeholders on recovery teams would ensure that implementation of recovery plans would be accomplished providing for timely recovery of the species while minimizing social and economic effects.

15. Will the new policy on recovery planning require the Services to always select the least-cost alternative to recovery? No. The least-cost alternative would generally favor single species recovery plans. We are trying to focus our efforts on multiple species recovery. Although this would not necessarily be the least-cost alternative, it is the most effective way to recover species in the shortest amount of time.

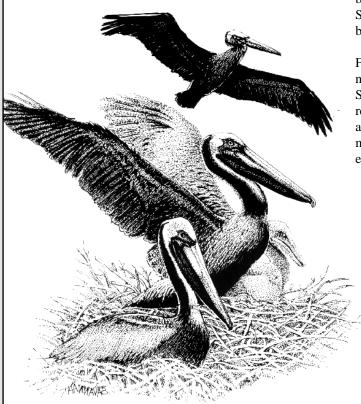
16. How will this new policy on ecosystem approaches help prevent species from getting on the list of threatened and endangered species? Grouping listing decisions on an ecosystem basis or developing recovery plans for species within the same ecosystem, where possible, will provide protection to the candidate species in the same system. Reducing or removing threats to candidate species may avoid the need to list them in the future.

17. What effect will the Service's new ecosystem approach to fish and wildlife conservation have on threatened and endangered species? While we must continue to provide support

for individual species that are already endangered or threatened, and while we must commit ourselves to dealing with the backlog of candidate species and protecting those species that require it, it's vitally important to seek ways to carry on our economic lives, manage our land and conserve our resources so that species, ecosystems, and our very life-support systems do not continue to be put at risk. This complex set of resources will be conserved most effectively by recognizing the interrelationships in natural systems and by looking at the whole picture rather than addressing the parts individually.

For more than two decades, we have understood the relationship between the health of our nation's ecosystems and the species they support. Based on an understanding of that relationship, Congress has given us laws like the National Environmental Policy Act, the Clean Water Act, the Coastal Zone Management Act, the National Forest Management Act, and the Federal Land Policy and Management Act that are intended to balance the social and economic needs of our society with the need to preserve the health of the ecosystems on which we all depend. Combined with similar laws and ordinances at the State, county, and local governments, no species in the United States should ever be threatened or endangered because of habitat loss or degradation. Despite innumerable opportunities to maintain ecological health, meet the needs of American citizens, and protect our nation's biodiversity through these and other local, county, State, and Federal mandates, the number of species brought closer to extinction continues to climb.

If current laws are implemented correctly with our Federal, State, and local partners, we may avoid the need to invoke the safety net of the Endangered Species Act. The Service's ecosystem approach will refocus the working relationship with Federal, State and local partners to manage the nation's ecosystems more effectively and prevent species from becoming endangered by habitat loss or degradation.



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Reauthorization includes building new strategies to improve implementation

Editor's note: In June of 1994, the Department of the Interior announced a comprehensive approach to the implementation of the Endangered Species Act. This approach is centered around the following strategies, which represent the response to problems and perceptions associated with the Act:

Strategy I. Prevent Endangerment --This strategy focuses on administrative improvements that could prevent additional species from becoming threatened or

endangered in the future. The Federal government and its partners need to use all of their authorities to manage the nation's ecosystems more effectively to prevent species endangerment due to habitat loss or degradation. As an initial step, the Federal government and its partners need to focus effort on candidate species to prevent them from becoming listed as threatened or endangered.

Strategy II. Strengthen the Safety Net -- This focuses on administrative improvements that would more efficiently add species that need the protection of the Act; protect them more effectively once they are added; and return them from the brink of extinction more effectively and efficiently. These administrative changes primarily take aim at the listing, consultation, recovery and habitat conservation planning (HCP) processes associated with the Act.

Strategy III. Strengthen Partnerships -- Cooperation with other Federal agencies, the States, tribal governments, local governments, and private individuals and organizations is essential to protecting and recovering threatened and endangered species. In many instances, that cooperation is integral to the day-to-day administration of the Act. In other instances,

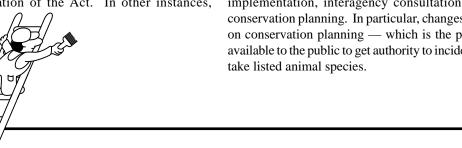
cooperation between the Federal government and its partners needs dramatic improvement. This focuses on administrative changes to expand those partnerships in ways that benefit threatened, endangered, and candidate species.

Strategy IV. Improve Flexibility to Minimize Unnecessary Socioeconomic Effects -- Private landowners are critical partners in national efforts to conserve threatened and endangered species. About half of the nearly 950 threatened and

endangered species are found exclusively on private land. These and many other species cannot be recovered without contributions from private land owners. The focus is on administrative changes to promote conservation of threatened and endangered species on private lands.

Strategy V. Reduce Delay and Uncertainty for State and Local Governments and Private Citizens -- The effects of Federal decisions regarding listing, consultation, and recovery efforts can be significant on non-Federal governments and private citizens. Non-Federal governments are often confused and misunderstand the requirements for compliance with the Act which apply to them. This goal focuses on better explaining Act requirements that apply to non-Federal governments, organizations, and individuals. It also focuses on administrative changes that reduce or eliminate delays and uncertainty associated with Act programs that affect non-Federal governments, organizations, and individuals.

Strategy VI. Focus Limited Resources -- This strategy focuses on several administrative changes to the Act that would improve the efficiency of the listing process, recovery planning and implementation, interagency consultations, and conservation planning. In particular, changes focus on conservation planning — which is the process available to the public to get authority to incidentally take listed animal species.



Bills introduced into Congress impact ESA

Editor's note: The following story offers examples of current and past items on the floors of the House and Senate which impact reauthorization of the Endangered Species Act. The first section deals with three key pieces of legislation which focus on landowner rights issues. They are only a sampling of items introduced in 1995 to the 104th Congress. The next section details what legislation

surfaced during previous session of relating Congress to reauthorization. They are included since these issues could be revisited should Congress move toward a decision on reauthorization this year. It's also important to note that **President Clinton signed** the Defense Spending Bill on April 10, 1995, which contained a provision placing a moratorium on final listings of endangered and threatened species and designations of critical habitat.

The following shows three House Resolutions before the

current 104th Congress relating to the Endangered Species Act. They are H.R. 925 (The Private Property Protection Act of 1995), H.R. 490 (The Farm, Ranch and Homestead Protection Act of 1995) and H.R. 9 (The Job Creation and Wage Enhancement Act of 1995).

H.R. 925 (Rep. Canady, R-Florida) - The Private Property Protection Act
of 1995. This resolution proposes to
compensate owners of private property
for the effect of certain regulatory
restrictions. The bill was introduced
February 14, 1995, and it was referred
to the House Judiciary Committee. The
bill states that, "The Federal
Government shall compensate an owner
of property whose use of that property

has been limited by an agency action, pursuant to a specified regulatory law, that diminishes the fair market value of that property by 33 and 1/3 percent or more, for that diminution in value. No compensation shall be made under this Act if the use limited by Federal agency action is proscribed under the law of the State in which the property is located (other than a proscription required by a Federal law, either directly or as a



condition for assistance). If a use is a nuisance as defined by the law of a State, that use is proscribed for the purposes of this subsection." The bill lists exceptions noting that no compensation will be made under this Act with respect to an agency action to prevent an imminent and identifiable hazard to public health and safety; or damage to specific property other than the property whose use is limited. An owner seeking compensation under this Act should make a written request for compensation to the agency whose action resulted in the limitation. Requests must be made no later than 180 days after the owner receives notice of an agency action. The agency may

bargain with that owner to establish the amount of the compensation. If the agency and the owner agree to an amount, the agency will promptly pay the owner the agreed amount. If the parties do not come to an agreement, within 180 days of the written request, the owner may choose to take the issue to binding arbitration or seek compensation in a civil action. Any payment made under this section to an

owner, and any judgment obtained by an owner in a civil action will be made from the annual appropriation of the responsible agency. If the agency action resulted from a requirement imposed by another agency, then the agency making the payment or satisfying the judgment may seek partial or complete reimbursement from the appropriated funds of the other agency.

H.R. 490 (Rep. Smith, R-Texas) The Farm, Ranch and Homestead Protection Act of 1995. This bill was introduced into the House of Representatives on January 11, 1995, and was referred to the House Resources Committee.

The bill proposes, "To amend the Endangered Species Act of 1973 to ensure that constitutionally protected private property rights are not infringed until adequate protection is afforded by reauthorization of the Act, to protect against and compensate for economic losses from critical habitat designation, and for other purposes." It also states that Section 4(a) of the Endangered Species Act of 1973 (16 U.S.C. 1533(a)) be amended by adding, "(4) Moratorium.—Notwithstanding paragraphs (1) and (3), during the period beginning on the date of enactment of this paragraph and ending on the effective date of the first

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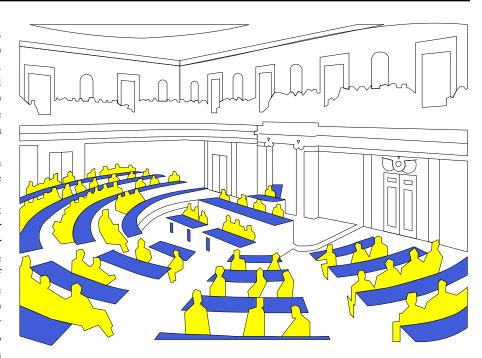
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subsequent reauthorization of this Act, the Secretary may not— (A) determine that a species is an endangered species or a threatened species under paragraph (1); or (B) designate habitat of a species to be critical habitat under paragraph (3)." Although a moratorium has since been put in place (when President Clinton signed the Defense Spending Bill in April), Section 3 of this bill is significant outlining options compensation of landowners for designation of critical habitat. The bill proposes that Section 4(a) of the Endangered Species Act be further amended by adding, "(5) Compensation .-- If the Secretary designates habitat of a species to be critical habitat under paragraph

(3) and if the habitat is located on property that is owned by a person or entity other than the Federal Government, on request of the person or entity, the Secretary shall compensate the person or entity for any loss in market value of the land that results from the designation."

H.R. 9 (Rep. Archer, R-Texas) The Job Creationand Wage Enhancement Act of 1995. This bill was introduced into the House of Representatives on January 4, 1995, and was referred to the House Ways and Means Committee. The bill proposes, "To create jobs, enhance wages, strengthen property rights, maintain certain economic liberties, decentralize and reduce the power of the Federal Government with respect to the States, localities, and citizens of the United States. and to increase the accountability of Federal officials." Title IX of the bill, "Private Property Protections and Compensation", would impact the Endangered Species Act. This Title was referred to the House Judiciary Committee for review. The purpose of this title is, "To compensate private property owners with respect to certain actions that are taken by the Federal Government for public purposes and that limit the use of private property by property owners." The bill

states that a private property owner is



entitled to receive compensation from the United States for any agency infringement or deprivation of rights to property that he or she owns. It defines the term "agency infringement or deprivation of rights to property" as a limitation or condition that is imposed by a final agency action on a use of property that would otherwise be lawful and results in a reduction in the value of the property of 10 percent or more. It also specifies that a private property owner shall not be entitled to receive compensation for, "A limitation on any action that would constitute a violation of applicable State or local law (including an action that would violate a local zoning ordinance or would constitute a nuisance under any applicable State or local law); a limitation on any use of private property, imposed pursuant to a determination by the President that the use poses or would pose a serious and imminent threat to public health and safety or to the health and safety of workers, or other individuals, lawfully on the property; or for a limitation imposed pursuant to the Federal navigational servitude." The bill goes on to state that the payment should not exceed the fair market value of the property. Property owners must submit their request in writing within 90 days after receipt of notice of an agency

action. The head of an agency shall make the determination and offer for compensation no later than 180 days after receiving the request. A private property owner will have 60 days after the date of receipt of an offer to accept or reject it. The House later decided after committee review to combine items from H.R. 9 and form H.R. 925, a description of which leads off this article on the previous page.

The following is a synopsis of House Resolutions and Senate legislation introduced into the 103rd Congress to reauthorize the Endangered Species Act of 1973 as amended. The narratives summarize these bills and are presented in numerical sequence with three exceptions: H.R. 2043, S. 921, and H.R. 1490, which provide the most extensive amendments to the Act and are presented first. Also note that each of these will need to be reintroduced by the 104th Congress in 1995 for consideration in the reauthorization of the Act.

H.R. 2043 (Rep. Studds, D-Massachusetts) -- Endangered Species Act Amendments of 1993. This bill provides extensive amendments to the Act and is considered the lead vehicle for its reauthorization. It would set deadlines for the development and implementation of recovery plans. It

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would require Federal agencies to be responsible for conserving candidate species. It would give priority to recovery plans that benefitted multiple species (including candidate species) by protecting and restoring ecosystems. It would promote conservation of candidate species by encouraging private individuals to develop conservation plans for candidate species in advance of listing, and it would provide various incentives for species conservation on State and private lands. As of June, this bill was cosponsored by 95 Democrat, 13 Republican and one Independent members of the House. Those representing Region 3 states included: Barrett (D-Wisconsin), Bonoir (D-Michigan), Carr (D-Michigan), Collins (D-Michigan), Conyers (D-Michigan), Dingell (D-Michigan), Evans (D-Illinois), Ford (D-Michigan), Gutierrez (D-Illinois), Jacobs (D-Indiana), Kaptur (D-Ohio), Kildee (D-Michigan), Levin (D-Michigan), Lupinski (D-Illinois), Peterson (D-Minnesota), Porter (R-Illinois), Reynolds (D-Illinois), Sabo (D-Minnesota), Stokes (D-Ohio), Vento (D-Minnesota) and Yates (D-Illinois).

S. 921 (Sen. Baucus, D-Montana and Sen. Chafee, R-Rhode Island) -- Endangered Species Act Amendments of 1993. This bill is largely a Senate companion bill to H.R. 2043. It differs by encouraging, rather than requiring, Federal agencies to be responsible for conserving candidate species and by requiring consultations on agency actions taken outside of the United States. As of June, this bill was cosponsored by 21 Democrat and three Republican Senators. Those from Region 3 states included: Durenberger (R-Minnesota), Metzenbaum (D-Ohio), Riegle (D-Michigan), Simon (D-Illinois) and Wellstone (D-Minnesota).

H.R. 1490 (Rep. Tauzin, D-Louisiana) -- The Endangered Species Procedural Reform Amendments of 1993. This bill is considered the lead alternative to H.R. 2043. It provides extensive amendments to the Act. It would require peer review of listing actions if requested by a member of the

public. It would require listing actions to identify any scientific uncertainty associated with a listing proposal and require the Secretary of the Interior to exclude areas from critical habitat designations if the economic benefits of excluding an area outweighs the biological benefits of including them. It would allow private individuals to participate in and use interagency consultations to acquire incidental take statements, and would provide incentives for private landowners to conserve listed species. It would also compensate landowners for diminishment in the economic value of their private property. As of June, this bill was cosponsored by 26 Democrat and 81 Republican Representatives. Those from Region 3 states included: Barcia (D-Michigan), Boehner (R-Ohio), Burton (R-Indiana), Camp (R-Michigan), Crane (R-Illinois), Emerson (R-Missouri), Hobson (R-Ohio), Knollenberg (R-Michigan), Lightfoot (R-Iowa), Myers (R-Indiana), Nussle (R-Iowa) and Penny (D-

Minnesota).

H.R. 273 (Rep. McCollum, R-Florida) -- **Florida Panther.** This bill amends the Act by listing the Florida panther as an endangered species. The Florida panther was listed as an endangered species in 1967 under the Endangered Species Preservation Act of 1966.

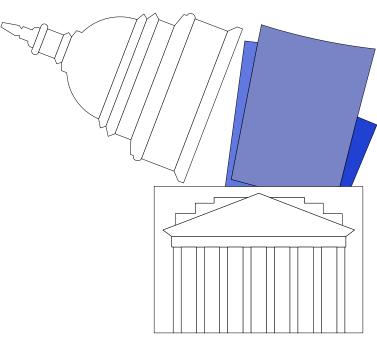
H.R. 888 (Rep. Smith, R-Oregon) -- To Amend the Endangered Species Act of 1973. This bill amends the Act through exempting the "taking or jeopardy" that results from modifications of the Safe Drinking Water Act -- designated sole source aquifers, for example, the Edwards Aquifer in Texas.

H.R. 1388 (Rep. Smith, R-Oregon) -- Just Compensation Act of 1993. This bill amends the Act by requiring Federal agencies to compensate private property owners for any loss in the value of their land. Compensation would be required even if there is only a partial loss of land value or if the loss of value is only temporary.

H.R. 1414 (Rep. Hansen, R-Vermont) -- Human Protection Act of 1993. This bill amends the procedures for listing a species and designating critical habitat under the Act Section 4(b) by eliminating any listing or designation whose potential economic costs outweigh potential economic benefits (using the criteria established in Executive Order 12291, a Federal Regulation issued on Feb. 17, 1981 which requires regulatory impact analyses for major rules). This bill would also require a "takings impact assessment" for any regulation promulgated under the Act. The bill eliminates biology as the sole basis for listing and as an exclusion base line for critical habitat.

H.R. 1992 (Rep. Smith, R-Oregon) -- Endangered Species Improvement Act of 1993. This bill amends the listing criteria of the Act Section 4(a) by requiring the Secretary of the Interior to determine that the listing is in the public interest after considering the technical practicability to recover a listed

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species, the biological significance of the species, the direct and indirect costs of protecting listed species, and the effects of protecting listed species on private property.

H.R. 2207 (Rep. Brewster, D-Oklahoma) -- Common Sense Amendments for All Endangered **Species Act.** This bill amends the Act by exempting any action associated with Federal or State fish and wildlife management activities from the takings prohibitions of Section 9 of the Act. The bill includes five other provisions that exempt traditional fish and wildlife management activities from the takings prohibitions of the Act. As of June, seven Democrat and 18 Republican Representatives have cosponsored the bill. Representatives from Region 3 states included: Barcia (D-Michigan), Boehner (R-Ohio), Burton (R-Indiana), Crane (R-Illinois), Emerson (R-Missouri), Oxley (R-Ohio) and Peterson (D-Minnesota).

H.R. 2457 (Rep. Pelosi, D-California) Winter Run Chinook Salmon Captive Broodstock Act of 1993. The bill directs the Department of the Interior to conduct a captive Broodstock program for the Sacramento River winter run Chinook salmon, consistent with priorities of the recovery plan.

H.R. 3402 (Rep. Fields, R-Texas)
Fountain Darter Captive
Propagation Research Act of 1993.
This bill directs the Department of the
Interior to establish a fountain darter
captive propagation research program
consistent with recovery plan priorities.

H.R. 3875 (Rep. Tauzin, D-Louisiana) -- Coined "The Private Property Owner's Bill of Rights." This bill requires the development of rules and regulations to protect rights of property owners when making final decisions that restrict the use of private property. It requires written consent and prior notice to enter private property. It gives property owners the right to review and dispute data collected from the property. It allows appeals of Act decisions, such as those on critical habitat and incidental take permit denials. It requires compensation for

actions that reduce market value or economic use of property by 50 percent or more. It also requires the opportunity for property owner participation in management agreements that would restrict use of private property. This bill is picking up considerable support and has more cosponsors than either leading ESA reauthorization bill: 23 Democrats and 107 Republicans. Representatives from Region 3 states included: Barcia (D-Michigan), Boehner (R-Ohio), Burton (R-Indiana), Buyer (R-Indiana), Danner (D-Missouri), Emerson (R-Missouri), Ewing (R-Illinois), Gillmor (R-Ohio), Grandy (R-Iowa), Hancock (R-Missouri), Hastert (R-Illinois), Hobson (R-Ohio), Hoekstra (R-Hyde (R-Illinois), Michigan), Knollenberg (R-Michigan), Lightfoot (R-Iowa), Myers (R-Indiana), Nussle (R-Iowa), Oxley (R-Ohio), Roth (R-Wisconsin), Sensenbrenner (R-Wisconsin), Skelton (D-Missouri), Smith (R-Michigan), Stupak (D-Michigan), Talent (R-Missouri) and Traficant (D-Ohio).

H.R. 3978 (Rep. Pombo, R-California) -- Endangered Species Management Act of 1994. This bill amends the Act by authorizing the protection of only those species that are determined to be in the national interest to protect, eliminating the protection for bald eagle, grizzly bears, brown pelicans, and other currently listed vertebrate populations; limiting the authority of the Secretary to protect species that occur predominantly outside of the United States; preventing species from being listed until a recovery plan has first been prepared; requiring public hearings in each area in which a species occurs; redefining critical habitat to mean those areas essential for a species' persistence over a period that can be as short as five years but cannot exceed 50 years; requiring compensation for actions that reduce the fair market value of private property by 25 percent or more; and eliminating Section 6 dollars for species that are listed by states but are not Federally listed species.

H.R. 3997 (Rep. Doolittle, R-California) -- **Balanced Economic and Environmental Priorities Act of 1994.**

This bill amends the Act by requiring specific Congressional approval for each new addition to the list of threatened and endangered species. The bill prohibits implementation of any critical habitat designation, recovery plan, or species 4(d) rule unless the Secretary of the Interior or the Secretary of Commerce conducts an economic analysis of the action, publishes an economic impact analysis, and concludes that the benefits outweigh the costs. It also requires the Secretary to compensate for any person who incurs an economic loss. This bill would also require economic impact statements for all species that have been listed since January 1, 1986.

S. 74 (Sen. Metzenbaum, D-Ohio) -Endangered Species Act
Amendments of 1992. This bill
amends the Act by expanding the
application of interagency consultations
to include actions taken in foreign
countries and on the high seas, and by
clarifying the conditions under which a
citizen could file suit under the Act.

S. 1440 (Sen. Burns, R-Montana) ---Common Sense Amendments for All Endangered Species Act. This bill is the senate version of H.R. 2207. It amends the Act by exempting any action associated with Federal or State fish and wildlife management activities from the takings prohibitions of Section 9 of the Act. The bill includes five other provisions that exempt traditional fish and wildlife management activities from the takings prohibitions of the Act. As of June, the bill is cosponsored by five senators: one Democrat and four Republicans. None are senators from Region 3 states.

S. 1521 (Sen. Shelby, D-Alabama) -Endangered Species Act Procedural
Reform Amendments of 1993. This
bill is the senate version of H.R. 1490,
although there are several significant
differences. It differs by using
consultations between non-Federal
persons and the Fish and Wildlife
Service to provide those persons with
incidental take statements. Incidental
take would not be prohibited under
Section 9 of an Act amended by this bill,
if the action causing the take was not
likely to jeopardize listed species.

Region 3 has a full plate of work with listed and candidate species

By Kate Winsor Information and Education Coordinator Division of Endangered Species

The year ahead looks busy for Service staff and partners as they continue to work with not only listed species, but species that could become listed as well. Here's a sampling of some of the work that is under way.



Bald eagle reclassification

- A proposal to upgrade the status of the bald eagle from endangered to threatened in most of the lower 48 states was published in the Federal Register in July 1994.
- Serving as the lead, Region 3 has prepared information and education materials for the reclassification and assisted Regions 2 and 5 in holding public hearings regarding reclassification. No hearings were requested in Region 3.
- Region 3 is reconstituting the Northern States Bald Eagle Recovery Team as a preliminary step in revising the Recovery Plan to focus on additional habitat protection needs and refine delisting criteria.

Gray wolf recovery

• The gray wolf recovery program has been so successful that wolf numbers and geographic distribution are steadily increasing. For the first time in recent decades, 100 or more animals (in addition to the Minnesota population) occur within the subspecies historic range. We anticipate proposing the



wolf for delisting by the year 2005 or sooner.

- An increased focus on law enforcement, depredation control regulations, and compensation payments are necessary because of increasing gray wolf populations and distribution.
- Region 3 is working cooperatively with endangered species staff from Regions 1, 2, 5, and 6 to develop a coordinated nationwide strategy for gray wolf recovery. A draft document will be available for review in the near future.

Piping plover management and protection



- The Great Lakes piping plover is one of the most endangered animals in Region 3; only 19 nesting pairs used the Great Lakes shoreline in 1994.
- One nesting site used by piping plovers in 1993-94 was proposed by the recreation division of the Michigan Department of Natural Resources for development as a 151-slip harbor of refuge.
- The Service has pursued all avenues to have Michigan invoke options to change the size or site of this "harbor of refuge." A jeopardy biological opinion was released in August 1994. Due to

this and other concerns, the Corps of Engineers has declined to issue the permit necessary for this project.

• The comment period on the Revised Recovery Plan for Piping Plovers Breeding on the Great Lakes and Northern Great Plains recently closed. The recovery team will further revise the draft in early 1995.



Karner blue recovery and habitat conservation

- The Karner blue butterfly and its host plant wild lupine occur at about 130 locations in Wisconsin and represent the largest known remaining concentration of the butterfly.
- Some forestry activities, such as pesticide application and tree planting, may adversely affect the butterfly, necessitating incidental take permits for these activities. The forest industry as well as State and county foresters manage large areas where remnant butterfly habitat exists in Wisconsin.
- The Wisconsin Department of Natural Resources has entered into a statewide Habitat Conservation Planning process with representatives of the forest industry, and hopes to expand the partnership to other private and public landowners. The Habitat Conservation Plan will be a key component to a permit application to the U.S. Fish and Wildlife Service for "incidental take" of the Karner blue butterfly.
- The Karner Blue Butterfly Recovery Team is currently working on the recovery section of the Karner Blue

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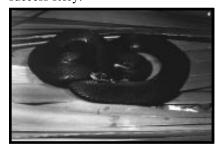
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Butterfly Recovery Plan. The combined technical/agency draft is expected to be completed during the summer of 1995.



Kirtland's warbler recovery and future

- The Kirtland's warbler recovery program, one of the oldest multi-agency endangered species efforts, has resulted in populations at their highest level in three decades (1,260 individuals).
- Continuing success in recovery depends on intensive habitat management and cowbird depredation control, activities that are both seriously under-funded at this time.
- New initiatives beginning in Mio, Michigan, this year included the first Kirtland's Warbler Festival sponsored by the Oscoda County Chamber of Commerce, and a self-guided Jack Pine Wildlife Viewing Tour, a multi-partner project directed toward public education and tourism.
- Secretary Babbitt visited the area in June 1994, and has often referred to the Kirtland's warbler situation as an ESA success story.



Copperbelly water snake listing

• The copperbelly water snake is currently proposed as a threatened species in Illinois, Indiana, Michigan, Ohio, and Kentucky. Listing this species could restrict coal mining and other development, particularly in Indiana and Kentucky.

- This proposed listing has become a very emotional and controversial issue, and has drawn attention from environmental interests as well as industry.
- A public hearing on this listing decision was held in Indianapolis in April 1994.
- A proposed purchase of prime habitat for addition to the Patoka River Wetlands Project has great potential to benefit the species and to positively influence the current management climate.



Lake Erie water snake listing

- The Lake Erie water snake, found only along limestone/dolomite islands in western Lake Erie and Johnson's Island in Sandusky Bay, Ohio, has been proposed for listing as threatened. A final listing decision is imminent.
- Its existence is threatened by habitat loss and degradation, collection, and eradication by people who mistakenly believe the snake is poisonous.
- Protection of the Lake Erie water snake is controversial and has drawn concern from landowners, environmental interests, and the shoreline development industry. Two public hearings were held in Ohio during May and June 1994.

Native mussel protection and recovery

- The 16 species of endangered freshwater mussels in Region 3 waters are negatively affected by impoundments, habitat degradation, contaminants, and the exotic zebra mussel.
- Current funding is not adequate to conduct basic research on species biology and status; watershed protection

and restoration; effects of zebra mussel infestation; and captive propagation, holding, and reintroduction.

- The benefits of drafting a multispecies recovery plan to address the needs of endangered mussels in aquatic ecosystems across the Region are being weighed.
- This is considered one of the most problematic issues in the Region 3 Endangered Species Program. Several attempts have been made to elevate this issue for national attention.



Hine's emerald dragonfly protection and recovery

- The Hine's emerald dragonfly occurs only in five sites in Door County, Wisconsin, and seven sites in an 8-mile radius in the lower Des Plaines River Valley near Chicago.
- This species was listed as endangered on January 26, 1995.
- A public hearing on this listing decision was held in Sturgeon Bay, Wisconsin, in May 1994.
- The Service has formed partnerships with county Forest Preserve Districts in Illinois and with the Illinois Department of Conservation to establish habitat management guidelines and expedite the recovery process.

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Mitchell's satyr butterfly recovery

- The endangered Mitchell's satyr butterfly occurs only in a few sites in Indiana and Michigan.
- The Service recently worked with the Federal Highway Administration and the Michigan Department of Transportation to recommend design changes to the U.S. Highway 31 bypass near Benton Harbor, Michigan, to minimize impacts on the butterfly.
- In 1997-98, bridges are scheduled to span the second most significant population of this endangered butterfly. Only 264 butterflies were counted in 1993.
- The Highway 31 bypass project includes the construction of two bridge spans over Blue Creek fen, which supports the second most significant population of this butterfly.
- A jeopardy biological opinion on the Highway 31 bypass was issued in April 1994.
 - A recovery plan is being prepared.

Indiana bat and gray bat recovery

• The Indiana Bat Recovery Plan calls for a biannual census of important hibernacula (winter hibernating caves). Nine Priority 1 and less than 20 Priority 2 hibernacula are known to exist. Priority 1 caves have a recorded population of more than 30,000 and Priority 2 caves have populations between 1,000 and 30,000. Since surveys began in 1983, the number of Priority 1 Indiana bat populations has

declined an average of 5 percent per year. The most serious cause of Indiana bat decline is human disturbance of hibernating bats, but loss of summer habitat is also suspected to be a significant problem.

• The range of the endangered gray bat in Region 3 is concentrated in the cave regions of Missouri. About 95 percent of all individuals of the species hibernate in only eight caves; three of which are in Missouri.

Recovery plans for Region's plant species

• Twenty-three listed plant species occur in Region 3. These include dwarf lake iris, eastern and western prairie fringed orchids, Houghton's goldenrod, Leedy's roseroot, Mead's milkweed, Michigan monkey flower, and Pitcher's thistle.



• Six final plant recovery plans and two draft plans were scheduled for completion by Region 3 this year, and additional recovery plans will be drafted, updated, or revised in 1995. Notices of availability of draft recovery plans for the western prairie fringed orchid, Leedy's roseroot, and Houghton's goldenrod were published in the Federal Register during 1994.

Listed plants in Lake Michigan's Lake Shore Ecosystem

• In Michigan, American hart's-tongue fern, dwarf lake iris, eastern prairie fringed orchid, Houghton's goldenrod, Michigan monkey flower, and Pitcher's thistle occur in lakeshore habitat on private parcels with up to a total of 10,000 different residential and vacation landowners.

- The Service is supporting the Michigan Department of Natural Resources' landowner contact and education program for these species, with grant funds provided through Section 6 of the Act.
- Recovery efforts are enhanced through this program, which includes informational materials, voluntary stewardship, and recognition of landowners who voluntarily agree to protect a Federally listed plant species on their property.

Candidate species assessment

- Assessment of the 182 candidate species occurring in Region 3 is a high priority for our Endangered Species staff.
- Lead responsibility for individual candidate species was recently assigned to Service field offices.
- Standardized assessment and prioritizing needs to be developed to better identify and utilize information currently available for these species.
- Partnerships with Region 3 states are a key part of assessing the status of candidates through cooperative projects and several forms of financial assistance.

Information and education

- Region 3 Division of Endangered Species is committed to an increased emphasis on information and education. Region 3 has one part-time employee devoted to coordinating the endangered species information and education program.
- A committee has been formed to write an Endangered Species Information and Education Plan for the Region.
- Fact sheets on the Region's endangered, threatened, and proposed species are either available or under development. A list of endangered species resource materials that are available from the Division of Endangered Species was prepared and made available to teachers and other youth leaders.
- Through a cooperative agreement with the Bell Museum of Minnesota, a series of displays featuring Region 3 endangered species is being developed.

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• Partnerships with Region 3 states are a key part of our information and education efforts.

Section 6 grants and cooperative projects

- The Service provided over \$700,000 in Section 6 grant funds and internal program dollars to Region 3 states to conduct cooperative endangered species projects during Fiscal Year 1994.
- Including cooperative projects with other partners, the total 1994 outlay for endangered species partnerships was over a million dollars, representing approximately 40 percent of the budget.
- The Service is strongly committed to our current process of working cooperatively with the Region's eight states and other partners to identify endangered species priorities and address them through cooperative projects.

Great Lakes Initiative

- The Great Lakes Initiative is an Environmental Protection Agency (EPA) sponsored program to improve water quality for human health, and fish and wildlife resources across the entire Great Lakes Watershed.
- Water Quality Guidance for the Great Lakes System has been developed and is based on the Initiative. That guidance is expected to be finalized and published in the Federal Register by March 1995.
- As part of their mandate under the Act, the EPA began consulting with the Service in 1993 regarding potential effects of the Water Quality Guidance on threatened and endangered species. That consultation will be completed by February 1995.
- The Water Quality Guidance is expected to benefit the Great Lakes watershed by improving water quality through the reduction of pollutants discharged in the system. The purpose of the consultation is to ensure that the proposed water quality criteria, methodologies, and implementation procedures will also be protective of threatened and endangered species. Formal consultation has been initiated to ensure that the development of aquatic life criteria and wildlife criteria will not jeopardize threatened and endangered species.

National pesticide consultation

• EPA has the responsibility for registering pesticides and must consult with the Service regarding impacts of pesticide registration on threatened and endangered species. EPA began consulting with the Service on their pesticide registration programs during the 1980s. It soon became evident that the task was too enormous to approach on a case-by-case basis.

- Currently, EPA is consulting on pesticides on a chemical basis. The first group of chemicals for consultation included 31 chemicals divided into two subgroups. A final biological opinion on 16 vertebrate control agents was provided to EPA in August 1993. That opinion concluded that, of 246 "may affect" situations, 189 are likely to jeopardize listed species. The draft biological opinion on the second subgroup, which includes 14 insecticides and 1 herbicide, was provided to EPA in September 1993. That draft opinion concluded that, out of 2,330 "may affect" situations, 1,572 are likely to jeopardize listed species. The Service is expected to provide a final biological opinion on those pesticides to EPA by mid-1995.
- •To avoid jeopardizing listed species, EPA is implementing a threatened and endangered species protection program. Maps showing listed species distribution will be referenced in county registration bulletins. Pesticide users will be provided details on restrictions of chemicals and formulations to protect listed species by cross referencing the county bulletin with maps showing the use restrictions.
- •Several hundred active ingredients, representing thousands of pesticide products, still require consultation. Consultation with EPA on those registrations will continue for perhaps an additional decade.

Permits

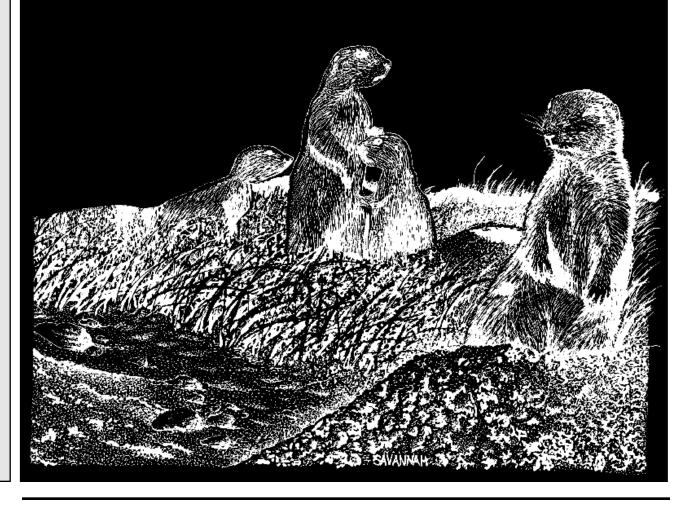
- Since being delegated authority to issue Scientific and Incidental Take permits, the Division of Endangered Species has received numerous additional permit requests.
- •Endangered Species staff and Division of Law Enforcement staff work very closely under the Act's permit authority.

Organization

- The Division of Endangered Species initiated a process of reorganizing endangered species operations from a Regional Office focus to one that provides more direct service through field offices located throughout Region 3.
- Lead office responsibilities for candidate species have been assigned to field offices, and other realignments of endangered species roles and responsibilities have been proposed that will delegate additional program activities to field offices.
- Enhancement of partnerships with Region 3 states, by providing more direct field level support and involvement, is one of the primary objectives for the realignment.
- A strategic plan for implementing the Act in this Region is also in preparation.

"We cannot hope to save tigers and rhinos beyond our borders unless we can demonstrate the wherewithal and creativity to conserve habitat in our own backyard."

Interior Secretary Bruce Babbitt The Mio Model



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The Mio model -- an ESA success

Editor's Note: (The following story is reprinted by permission from DEFENDERS magazine, Summer 1994. Copyright ©1994 by Defenders of Wildlife)

In some ways the town of Mio, Michigan, is like any other small town in the United States. The main street is marked by a modest collection of diners and motels, high school football is big and the residents all know and greet each other by name. But on the road into Mio, a 3-foot statue of a gray and yellow bird on the Oscoda County Courthouse lawn attests to an unusual source of hometown pride.

The statue is of a Kirtland's warbler, an extremely rare migratory songbird that breeds only in the jack pine forests of three counties on Michigan's lower peninsula. This year, Mio celebrated the bird's return from its Bahamas wintering grounds by hosting a 10-day celebration complete with parade and ice cream socials. The first annual Kirtland's Warbler Festival followed immediately upon the annual census of the endangered warbler population, a cooperative effort involving Federal and



Secretary Babbitt views the Kirtland's warbler with Mike DeCapita, East Lansing Field Office, Michigan.

State agencies, the National Audubon Society, the Michigan Wildlife Habitat Foundation and a number of volunteers.

The Kirtland's warbler census and festival are just two of the most visible signs of the tremendous cooperation, innovation and dedication to saving the warbler demonstrated by these residents of Michigan. Local motels are advertising special Kirtland's warbler tour packages in birding magazines with tremendous success. A forest management plan has been developed to cut and replant the forest on a 50-year rotation, providing plenty of the young jack pine habitat required by the warbler for breeding, while allowing

By
Secretary
of the
Interior
Bruce
Babbitt

trees to mature to a size suitable for harvest. The U.S. Forest Service's Plant-a-Tree program is enabling individual and corporate sponsors to help fund the purchase and planting of jack pine seedlings to create more warbler habitat. And local homeowners and Forest Service employees are working together to build a hiking trail through the forest, thereby balancing the desire for human use of the forest with the need to protect the land for the benefit of wildlife. All these efforts have been pivotal in helping the bird come back from the brink of extinction. The Kirtland's warbler population is now climbing at a rate of 15 to 20 percent a year. This year it totals at least 633 pairs, a dramatic increase from last year's 485.

he residents of Mio have created a success story in their community, but the pressures of habitat loss, which put the Kirtland's warbler in so much danger, continue to imperil many other species and ecosystems all over the world. This problem has no magic solution but a straightforward and practical one. We must learn to live more lightly on the land and to recognize the warning signs of distressed ecosystems. Only then can we avoid crises-what I have called train wrecks-like that in the Pacific Northwest where populations of salmon, northern spotted owls and many other species are rapidly dwindling.

The Mio model is one that offers hope that we can learn to use the Endangered Species Act as a tool for conservation consonant with the needs of local economies and private landowners. In the short time since President Bill Clinton took office, we've seen some other important habitat conservation models that, like the story of the Kirtland's warbler, show how property owners and government can work together, both to protect endangered species and to sustain economic development.

In the southeastern states, Georgia-Pacific and International Paper corporations signed agreements with the U.S. Fish and Wildlife Service that will conserve the red-cockaded woodpecker while allowing the companies to harvest trees. The agreements will conserve pine forest habitat in the birds' nesting and foraging range but permit logging operations outside that range.

n southern California, several counties, the State and the Federal government have launched an unparalleled multi-species conservation effort to protect the coastal sage environment where the threatened coastal California gnatcatcher lives along with 130 other potentially endangered or threatened plant, animal and amphibian species. Private

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An estimated 650 people visited rural northern Michigan to catch a glimpse of the endangered Kirtland's warbler. Here, visitors train their spotting scopes, videocameras and binoculars on a tiny bird, whose favorite singing perch was a mere 15 feet off the trail.

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property owners and government officials together reached the conclusion that a conservation program to protect the gnatcatcher would be of little value unless it also protected other species in this ecosystem.

In the Florida Everglades, the Clinton administration recently entered into an agreement with Governor Lawton Chiles and local agencies that initiated the most ambitious ecosystem rescue effort ever attempted in this country. The agreement seeks to restore an ecosystem severely strained by competing demands imposed by agriculture and urbanization, by inadequate and polluted water supplies and by an ever-tightening grip of exotic plant life that crowds out native plants and fish. Such a rescue plan was desperately needed to prevent imminent collapse of the Everglades ecosystem, signaled most clearly by the devastated fisheries of Florida Bay.

In the Pacific Northwest, the forest management plan

developed to break through gridlock is rooted in the need to conserve hundreds of species of fish, birds and other wildlife. In this Region, as in the Everglades and so many other parts of the country, fish are proving to be extraordinarily sensitive environmental indicators. In developing conservation plans, it is vital to recognize that the quality of water and therefore our chances of restoring fish populations and the ecosystems of which they are part are truly dependent on the way every square yard of habitat and land within entire watersheds is managed.

The key to creating effective conservation programs is to include local property owners, local government and local organizations to broaden ownership of conservation objectives. Traditionally, the Endangered Species Act has been invoked at the eleventh hour when a species is driven almost to extinction by habitat degradation and loss.

The results in too many cases are crises such as the disappearing salmon runs of the northeastern and northwestern states— and inevitably a politically polarized situation in which solutions are all the more difficult to achieve. Local partnerships with State and Federal wildlife agencies can help move the discussion about habitat preservation to a more productive consensus-building dialogue.

Success in preserving biodiversity will be measured by our ability to demonstrate that the Endangered Species Act is flexible enough to match the challenges of many diverse landscapes. At the same time that we prove that it is indeed possible to conserve species like the Kirtland's warbler, bald eagle or wolf, we also must demonstrate that we have the creativity necessary to respond to the needs of private property owners. The burden of conserving biodiversity must be shared equitably by all of us.

As we renew our efforts to protect biodiversity and build confidence in the Endangered Species Act, it is important to remember the consequences of failure. The loss of a species—be it salmon, the California condor or the coastal California gnatcatcher— is the loss of a unique part of our world that can never be replaced. If we fail to demonstrate both the importance and the viability of the Endangered Species Act, we run the very real risk that the only place our children will see today's rare birds and other imperiled animals will be in natural history museums.

As stewards of this planet, we have witnessed the demise of countless species. Our own country has already lost such fabled creatures as the passenger pigeon and the Carolina parakeet. Protecting biodiversity is a worldwide issue, but the job begins at home. We cannot hope to save tigers and rhinos beyond our borders unless we can demonstrate the wherewithal and creativity to conserve habitat in our own backyard. Mio, Michigan, is calling out to all of us to replicate its example.



The partners and supporters of the Kirtland's warbler festival and the Jack Pine Auto Tour gather on the Oscoda County courthouse lawn. Pictured are Charlie Guenther, Charles Andrina, Steve Kelley, Peter Stangel, Luke Holton, Lou Elbert, Dave Fernelius, Charlie Wooley, Kim O'Brien, Festival King and Queen Bill and Mauretta Kusey, "Dendroica kirtlandii", Mike Debol, John Byelich, Steve Basl, Gretchen Anderson, Alan Lowe, Paul Call, and Carmen and Rollie Harmes.

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ESA: the '911' call for our environment

Editor's note: The following are excerpts from the May 20, 1994, speech by Director Mollie Beattie to the National Association of Home Builders, at their 1994 Builder 100 Conference in Pebble Beach, California.

as the Endangered Species Act, there is bound to be a lot of propaganda thrown around. In many respects, this is the

way the game is played in Washington. Each side stakes out extreme positions, and the facts presented in support of those positions are often hyperbole. The truth, if it is found, is almost always somewhere between the extremes. I think this certainly has been true of the Endangered Species Act. In recent years, we have seen no shortage of rhetoric and misinformation in the debate over the Act. I'm sure you will agree with me that when an important national issue is reduced to this level, no one wins.

When the Act was signed by the late President Nixon in 1973, America took another important step in our tradition of conserving our Nation's natural resources.

Faced with growing numbers of extinct and

threatened species, we took action to conserve our natural heritage. As Senator Domenici so eloquently stated during debate on the Senate floor, in July 1973, "It is a fact that man has been the culprit in bringing certain species to the point of extinction. It would be a double indictment against humanity to ignore the present situation and allow the destruction of our resource of wildlife to continue."

In the two decades since, the Act has been instrumental in the survival of the bald eagle, our national symbol, and many other species, including the peregrine falcon, the whooping crane, the California condor, the black-footed ferret, the Aleutian Canada goose, the greenback cutthroat trout, the red wolf, the American alligator—the list goes on. In fact, populations of well over 200 threatened or endangered species are now either stable or increasing

because of the Act's protection.

Science is the sole determining factor in whether a species is listed under the Act. Quite simply, the Service must make a purely scientific judgment whether a particular species is threatened or endangered. But once a species has been listed, economics comes into play in recovery planning. The Service is required by law to take economic considerations into account

when determining the species' critical habitat. And economics also plays a role in what the Act calls the "Endangered Species Committee" but is commonly called the "God Squad." This is a Cabinet-level committee that can be summoned to decide whether, in particular cases, there should be exemptions to the Act for economic reasons

What does it mean for you as a landowner to have an endangered

species on your land? In short, it means you can't "take" a listed animal species either by directly killing or injuring it, or by significantly modifying its habitat. In addition, if there is a Federal agency or Federal funding involved, the agency must consult with the Service about the effect on the species before proceeding.

These consultations ordinarily do not have a major impact. Of the 118,000 informal and formal consultations required of other Federal agencies under the Act, from 1979 to 1991, only 33 development projects were halted. That is one project halted for each 3.578 consultations. The majority of the rest went forward with either no or

minor modifications.

ervice prosecutions of landowners for violations of the Act historically have been very rare. One reason is the Service normally looks for ways to work with landowners to avoid a prosecution, sometimes even after a violation has taken place. The reason for this is simple -- our interest is in protecting the

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species, not in prosecuting people. If we can find a way to proceed that will be beneficial to the species, we are much more likely to take that route.

Many timber and home building companies are working with the Service right now to take advantage of this flexibility. I think this is one of the most positive trends I've seen regarding the Endangered Species Act. I truly believe we are moving from conflict to consensus.

evertheless, the Service recognizes that endangered species can pose obstacles for landowners and the Endangered Species Act is a poor tool for doing business in a planned and efficient way. It is stiff medicine that should be taken only in severe cases.

The fact that we are having to take this medicine so often is a sign that we need to improve things.

The Endangered Species Act is designed to be a "911" number for the environment. It comes into use only when all other means to protect a species or an ecosystem have failed. The fact that

we are getting so many calls to this "911" number is not a sign that something's wrong with the number; it's a sign that we are not taking proper care of our environment, that we have serious underlying problems in our natural ecosystem that, if not addressed, may ultimately harm humans. This is the point most often ignored; that the problems brought to light by the Endangered Species Act are far deeper than just

ignored; that the problems brought to light by the **Endangered Species Act are** far deeper than just the decline of a single species."

"This is the point most often

the decline of a single species. Inevitably, endangered species indicate a problem in the natural ecosystem that, left unaddressed, will ultimately affect people. They are signs of air pollution, water pollution, and overuse of resources.

Furthermore, they indicate that economic activities causing the decline of the species cannot continue indefinitely. When growth is of a nature, speed, and scope that it pushes species to extinction and results in the unraveling of ecosystems, it is unsustainable by definition.

Consider, for example, that 45 percent of the Nation's endangered species live under water. A lot of these are obscure species with strange names like the unarmored threespine stickleback (a fish) and the pink mucket pearly mussel. It would be tempting to ignore these species, to say,

> "Who cares whether there are any pink mucket pearly mussels in our river bottoms?" But the fact is these species are simply "911" callswarning flags, if you will—alerting us to a much greater threat, in this case the pollution, degradation, overdrawing of rivers, streams and aquifers that

humans depend on for water.

We've seen the same scenario played out across the country. Take the old-growth forests in the Pacific Northwest. Contrary to what some people contend, the issue is not simply the spotted owl. Again, the owl is a "911" call, this time alerting us to the degradation of the forest ecosystem and its watershed due to overharvesting of timber.

> Some people have painted the issue as owls versus jobs. Or as owls versus affordable homes. This is simplistic and just plain wrong. The origins of the spotted owl problem arose years ago when Congress and Federal landmanaging agencies began allowing harvesting of the old-growth forests at levels that were unsustainable.

> Ironically, even with this high rate of harvesting, the number of jobs in the timber industry in the Pacific Northwest actually declined during this period due to automation. It was further eroded by rising exports of raw timber. When you add, on top of that, the jobs lost in other industries because of the damage to the forest ecosystem, the disastrous economic impact of the overharvesting becomes apparent.

> But what about lumber prices? How has the listing of the owl affected lumber prices? I have seen statements that blamed the owl for a 70 percent increase in the price of lumber from last July to December, raising the cost of a new

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home \$3,000 to \$5,000. As an aside, it is interesting to note that most of the litigation that has curtailed timber sales in the Northwest was not brought under the Endangered Species Act. It was brought under the National Forest Management Act of 1976, the National Environmental Policy Act, and the Federal Land Policy and Management Act of 1976.

B ut, no matter what caused the halt in timber sales, I think we must seriously wonder whether taking away 7 percent of the Nation's soft wood production could

raise prices 70 percent under any circumstances. If 7 percent of the new houses on the market suddenly disappeared, could you raise your prices 70 percent? Surely, any reasonable economist would recognize that there are much broader market forces that have caused the price increase.

But the fact is, we shouldn't be even having this discussion. The crisis in the old-growth forests should never have happened. Had the timber industry, Congress, and Federal agencies done some intelligent long-term planning for the old-growth forests

back in the 1970s, we wouldn't be talking about the spotted owl today.

In the end, the lesson we must learn is that we will always pay a great economic cost for lack of long-term environmental planning, whether or not we choose to protect endangered species. There is no real conflict between jobs and environment, only between short- and long-term thinking, because any failure to protect the environment or use natural resources sustainably always costs more in the end.

My second point is that the Federal government has not administered the Act as efficiently and effectively as possible to take advantage of the flexibility Congress put into the Act. For whatever reason, previous

administrations have encouraged conflict rather than consensus. In no small part, this has had the effect of delaying actions to conserve species until the populations were so low that there is what Secretary Babbitt calls a "train wreck" -- a point at which a species and its habitat are so depleted you have no choice but drastic action to conserve whatever is left.

In 1982, Congress wisely amended the Endangered Species Act to allow the Service to balance economic and conservation needs through what are known as "habitat conservation plans," or HCPs. The Southern California

"Endangered species tell us when we are getting too close. We must respect the limits or ultimately we will bear the consequences for the destruction of these natural processes."

building industry played an important role in lobbying Congress to make this change, and I applaud them for that.

Essentially, HCPs allow companies and individuals that have endangered species on their land to develop their resources while still providing for the conservation of the species. The theory is that individual animals do not need to be protected from "take" if sufficient habitat is conserved to assure the future of the species. In many cases, this involves setting aside some acreage for the endangered species while developing other acreage. In return, the Service gives the company a permit allowing incidental take of the species.

Our goal is to help developers and other landowners get through the process quickly and with confidence so they can proceed with their business plans without the rules changing in the middle of the game. We already have made some important steps in this direction. In the past couple of years, for example, we've reached agreement with International Paper on an HCP for the Red Hills salamander in Alabama, with the Simpson Timber Company for the spotted owl in California, and the Murray Pacific Timber Company for the spotted owl in Washington,

One of the clearest signs of how committed we are to the HCP process is that, for the first time ever, we have assigned a dedicated team of biologists

whose sole purpose is the negotiation of HCPs in the Pacific Northwest.

Currently, there are 22 habitat conservation plans in effect; discussions on more than 75 others is underway, including possible HCPs with other timber companies such as Plum Creek, Boise Cascade, and Longview Fiber. We also reached a similar conservation "no take" agreement with Georgia-Pacific to protect the redcockaded woodpecker while logging continues on 4 million acres of forests. The company voluntarily designed its plan to include no incidental take

of woodpeckers, effectively making it more stringent than an HCP. This is exactly the kind of commitment I believe the industry needs to make if it is going to understand and properly manage the resource upon which it depends.

In closing, let me reiterate that there are limits beyond which we cannot push our natural resources. The vast majority of natural processes around us are beyond human understanding and imitation, and no technology humankind can invent can roll back these limits. Endangered species tell us when we are getting too close. We must respect the limits or ultimately we will bear the consequences for the destruction of these natural processes.



"In the end, we will conserve only what we love, we will love only what we understand, we will understand only what we are taught."

> Baba Dioum Senegalese conservationist

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Georgia-Pacific joins conservation with the economic use of land

By Walter A. Jarck, Corporate Director of Forestry Georgia-Pacific

Most natural resource managers recognize the Endangered Species Act of 1973 (ESA) as the nation's most historic step in our century-old effort at national conservation programming. While as early as 1865, preservationist

John Muir offered to invest some of his personal wealth in the intrinsic values of wildflower conservation, it was another 108 years before American society made conservation of noncommodity resources a national mandate. In terms of impact on our perspective of the relationship between humans and nature. perhaps the ESA is a societal mandate unparalleled in the history of western civilization.

In his book "Americans and Their Forests." Michael Williams made the point that as preservation is the opposite of destruction and destruction is always bad, then to some people preservation is always good. Unquestionably, certain resources, if they are to survive into the future, have to be preserved through strict protection. These may range from landscapes such as unique sea islands to some narrowly situated endemic plants. Preservation of such resources for potential, but mostly unanticipated, values to future human progeny is a very new idea in human history. But for the spirit of the ESA to be manifest across the entire American landscape, must its implementation be strictly

preservation? Georgia-Pacific feels strongly that if the ESA is to be effective in the long term, preservation cannot be the only mode of conservation.

In the continental U.S., about 6 percent of the landscape is developed, 24 percent is in agriculture and managed forests, and 70 percent is natural forests, grasslands and desert. About 67 percent of the entire American landmass is



privately owned. East of the Rockies that percentage is certain to be much higher. In short, most of the national landscape is a working landscape, and it is mostly privately owned.

The privately owned working landscape produces the raw materials that feed, clothe and shelter the citizenry of our nation and portions of other nations. Our fortuitous location in the North Temperate Region is important to our capacity for such an undertaking. Yet even given our production capacity, we have become a debtor nation. For instance, even with our enormous wood production capacity, we are a net importer of round wood (the U.S. accounts for about 26 percent of the

world production of round wood, but it accounts for 31 percent of round wood use.). If conservation under the ESA mandate were to be primarily reliant on shrinkage of the working landscape, it would necessarily be antagonistic to the stability of the socioeconomic system that grows, harvests, and processes the raw materials that are critical to the national well-being. Georgia-Pacific

does not believe that such a conflict is imperative.

Georgia-Pacific approach is to develop meaningful conservation on the working landscape by integrating conservation with economic land use. Commercial forests are both publicly and privately owned. Management of publicly owned commercial forests may be more heavily weighted to non-commodity resource conservation than to timber production if that is the desire of the general citizenry, but such weighting must take into account the socioeconomic local impacts. Recent history yields ample evidence that

inadequacy in such considerations can lead to "train wrecks."

The privately owned working landscape, while a closely related issue, is separate. Private landowner rights and economic goals become stakes in this issue. For corporate lands, stockholder expectations become a serious consideration. The ESA is clear in its mandate for listed species recovery to be a Federal responsibility. Yet a large percentage of listed species do not occur on Federal lands. The dilemma for most of the working landscape is both obvious and legitimate.

Georgia-Pacific asks that all parties to the ESA-economic land use debate

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From a whisper to a shout



The bright yellow breast of this male Kirtland's warbler shone in the rays of the early morning sun. The male birds begin singing at dawn, moving from perch to perch in their chosen territory. The females are almost never seen, camouflaged by their dull colors and shy behavior.

By Steve Basl President Oscoda County Chamber of Commerce

Something unusual happened this year in the rural county of Oscoda, Michigan. This is the summer home of the endangered Kirtland's warbler and a county where two-thirds of the land is owned by the Department of Natural Resources or U.S. Forest Service. Much of the Huron

National Forest land where the Kirtland's warblers nest consists of a fire species known as jack pine.

As with possibly many rural counties, ours has several small villages which, in the past, didn't seem to get along and were just "standoffish" to each other. Farming and logging comprise most of the work opportunities, along with tourism during the hunting and fishing seasons. The county's biggest resource is the Au Sable River which runs right through the middle of the county. This is a county whose chamber of commerce is comprised of membership from one town, a district DNR office disliked for writing tickets for violations by the tourists and, of course, us locals. And, we had the U.S. Forest Service office, which was considered by many to be too restrictive to logging and other uses, as well as disliked for trying to manage jack pine rather than a commercial species the loggers could utilize. So far everything seems normal, right?

ell, a big change took place in Oscoda County recently that just shook these fibers of coexistence to their root, creating a lasting change and new respect for each other. It started harmlessly enough. The members of the chamber realized they just weren't big enough to compete with other areas and money was being spent primarily to advertise in competition with each other. So, to enhance membership and improve promotion county-wide, the chamber restructured itself into community districts, each with one chairman and one vote. The chamber board would address the issues of "generic" advertising and the office for tourist information. The districts themselves became responsible for deciding what each one wanted to promote with assistance from all others regarding the promotion.

During this transition, an opportunity came up for the chamber to apply for a grant from the Fish and Wildlife Foundation. The project was one that Bob Hess from the DNR, Connie Chaney from the U.S. Forest Service, and Mike DeCapita and Kate Winsor, from the U.S. Fish and Wildlife

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Georgia-Pacific -- continued from previous page

follow Secretary Babbitt's request to seek resolution to these issues by thinking more deeply and developing new innovation for conservation. We have followed this principle by developing a management plan for the red-cockaded woodpecker for our southern timberlands, and for which we have a Memorandum of Agreement with the U.S. Fish and Wildlife Service. The agreement states that while the Georgia-Pacific plan is not identical to the Service's plan for red-cockaded woodpecker conservation on private lands, it is equivalent in its conservation effect. We are now in our second year of developing a data base that will be the foundation for a conservation plan for the gopher tortoise on our lands in Mississippi. We have

assumed the lead within the private sector to move proactively, effectively, and efficiently to develop a statewide conservation plan for the Karner blue butterfly in Wisconsin. We are among the private sector leaders in the Atlantic salmon issue in Maine. Our eagle nest site protection program is long standing and we are members of the Louisiana Black Bear Conservation Committee. In every one of these issues we are striving to integrate appropriate conservation measures into economic land use. The forest products industry must have a predictable and sustainable supply of wood, and we must practice conservation. Georgia-Pacific is committed to developing innovations that bring compatibility to these mandates.

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Warbler -- from previous page



Oscoda County Chamber of Commerce President Steve Basl presents Secretary of Interior Bruce Babbitt with mementos of the First Annual Kirtland's Warbler Festival. The Secretary was intrigued by the unique partnerships at work that cojoined conservation and economic development, thus spawning what the Secretary now calls "The Mio Model".

Service, had been working on called, "The Jack Pine Wildlife Viewing Tour." To all of our surprise, the grant was approved. Things like this don't happen in Oscoda County.

As these rather revolutionary changes were taking place, a few chamber members noticed that birders from all over the country were quietly coming to our area to spot the endangered Kirtland's warbler. The question was raised, "Why don't we have a Kirtland's warbler festival?" This would be a chance to show we were truly going to be a county chamber by getting all the districts involved and, if we included some of the other clubs, the Department of Natural Resources, and the U.S. Forest Service, we could have a very nice festival. To put it bluntly, what took place from these beginnings startled the hell out of us and drove home a big lesson of life -- the lesson of cooperation and partnerships. Each District started

coming up with ideas to share.

The Iris Club was going to have its 50th annual show in June, so we asked if they would be a part of our festival. The Northeast Michigan Sportsmen's Club was planning their free fishing day derby that same week, so they were asked to join in. It was also decided that week would be a good time to have the ribbon cutting ceremony to promote the new auto tour. We now had formed a group consisting of business, gardening, sportsmen, the Department of Natural Resources, U.S. Fish and Wildlife Service and U.S. Forest Service.

At this point we started realizing that this festival was growing in size and we were going to need more help promoting the festival, plus a good chunk of money to advertise the events we had planned. With the initial money spent for advertising, other groups were starting to realize the potential of this festival and were ready to help, including Michigan United Conservation, the Service, and the Fish and Wildlife Foundation, Weverhaeuser Company, Abitibi Building Projects, Consumers Power, First Federal of Alpena, National Bank of Detroit, Phone Guide, the Chevy Geo Environmental Group, and many others donated money, time and help in getting the festival off the ground.

We spent about \$6,500 in advertising and promotion with an entire budget that grew to over \$18,000, but received thousands of dollars more from the newspaper articles, television and radio coverage, etc. The groups had come together for the common good of all.

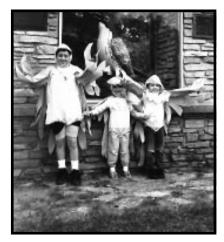
Due to the unique requirements of this endangered bird, State and Federal agencies were able to educate the public on the warbler, the auto tour, and the things they do for habitat improvement for all wildlife. The logging companies had a chance to show the importance of clear cutting and burning with certain tree species such as jack pine and that they are responsible people who have a vested interest in habitat improvements. Finally, the individual communities and clubs worked together sharing advertising dollars to promote the whole, rather than the part, and turn our little warbler into a party animal celebrity.

The true realization of what we had

accomplished came when Secretary of the Interior Bruce Babbitt notified us that he personally wanted to come and be part of our festival, as well as the Director of the Michigan Department of Natural Resources, the Forest Supervisor from Washington representing the U.S. Forest Service, the Field Supervisor of the U.S. Fish and Wildlife Service and our own State and U.S. Representatives and Senators.

ne of the events that we held also became an eye opener. As part of the festival events, we wanted to have a cross country run and mountain bike race but needed a place to hold the event. I offered the use of my property. I own the Big Creek shooting preserve on 365 acres, with over 10 miles of connecting trails that they could choose from to race. For most birders and mountain bikers, this was the first time they had been on a preserve. They noticed many species of nongame birds and animals living on the preserve as well as the many different types of habitat present. By the middle of the day, the questioning drifted from, "What do you hunt?" to questions of, "Can people come out and just go birding?" and "Can we come out and just walk your trails and take pictures of your deer?" My response to these

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Young citizens got in the act by wearing Kirtland's warbler costumes for the parade, ribboncutting ceremony and other events. Behind the youngsters stands the 3-foot statue of the warbler that fronts the Oscoda County courthouse.

TNC: The three-step approach to protection and stewardship

By Wayne Ostlie Great Plains Science Coordinator The Nature Conservancy

The missions of The Nature Conservancy (TNC) and the Endangered Species Act have much in common. As established by Congress, the Act works to prevent the extinction of species. TNC goes beyond species protection to include natural communities and broader ecosystems. TNC's mission is to "preserve plants, animals and natural communities that represent the diversity of life on earth by protecting the lands and waters they need to survive."

TNC accomplishes its mission through a three-step approach of identification, protection and stewardship. In all three phases, it has worked cooperatively with the U.S. Fish and Wildlife Service. Listed below is a sampling of cooperative activities that have served to further rare species protection within the Midwest.

To facilitate identification, TNC helped establish Natural Heritage Programs in all eight Region 3 states. Typically, these programs were established within State governments to track the status and location of rare species and high quality examples of natural communities in each respective state.

Natural Heritage Programs have been the key recipients of Section 6 funding for inventory and data development. Numerous status surveys of listed and candidate species are conducted in the Midwest annually in order to determine true distribution patterns and abundance. Funding is also frequently awarded to Heritage Programs for listed and



The Nature Conservancy has assisted the Service in work with species such as the Hine's emerald dragonfly, a Region 3 endangered species, as of January 1995.

candidate species monitoring and management program development. Recent projects include: Hine's emerald dragonfly status surveys in Ohio and Wisconsin, habitat management and surveys for eastern prairie fringed orchid in Ohio, a monitoring workshop for western prairie fringed orchid in Minnesota, a management plan development for the Karner blue butterfly in Minnesota, and a contact program for landowners of rare species habitat in Michigan.

TNC also worked with the Service to help develop a rare community module for the LAPS (Land Acquisition Priority

Continued on next page

Warbler -- continued from previous page

questions was, "Yes, you may. But please realize you have this opportunity because sportsmen support my type of business, which does benefit all types of plants and wildlife as well as a safer place to enjoy the various shooting sports and culture." So, on another level, people who may normally be at odds found that they could both enjoy the use of a parcel of land when its managed correctly and learn to respect each other's personal use of the land.

We need to stop extremist views on all subjects and educate ourselves so we can find solutions that are right for each side of an issue. I wonder what the "loggers vs. the spotted owl savers" are thinking now. After all the money and hours spent fighting each other, they now have the whole area burnt to the ground: timber, spotted owl, other wildlife, homes, towns, and human life. I'll bet if that money and time were spent on logging and saving the owl, natural fire breaks could have been made to minimize the disaster and there would have been many more winners.

In our case, it was very easy to conclude that not only was

the festival the most successful promotion the county ever accomplished, but we did it with the help of unusual partners working together and, of course, a little "tweety bird" called the Kirtland's warbler.



Motels, restaurants and other tourist-related businesses welcome bird watchers to Mio on billboards, brochures and even paper place mats! The county chamber of commerce sold Kirtland's warbler tee-shirts, pins and posters celebrating the festival.

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TNC and the Service have worked as partners the past four years in monitoring the status of the northern monkshood in northeast Iowa.

TNC -- continued from previous page

System) program. This program is designed to develop a biodiversity target to help rank refuges for biodiversity and ecological value. Thirty percent of the ranking system for the biodiversity target is based on the diversity and rarity of community types. This product will assist in determining new refuge acquisitions by the Service.

TNC has established the largest private system of nature preserves in the world, many of which were established to protect populations of listed species. Often, TNC works with Federal and State partners to further endangered species protection. Recent cooperative projects with the Service include:

Cache River, Illinois -- The Service and TNC share office facilities and equipment in an effort to cooperatively address protection and restoration issues within the Cache River of southern Illinois. Several tracts initially purchased by TNC have been transferred to the Cypress Creek NWR. TNC also assisted with the development and implementation of wetland restoration and reforestation plans within the refuge. These efforts provided enhanced protection for populations of gray bat, Indiana bat, bald eagle, interior least tern and creeping loosestrife.

Big Muddy NWR, Missouri -- TNC is assisting the Service in the acquisition of floodplain acres along the Missouri River by making landowner contacts, identifying willing sellers and purchasing tracts which will be transferred to the Service as part of the refuge system. Floodplain system restoration and enhancement will benefit the pallid sturgeon, bald eagle and several fish species which are candidates for Federal listing.

Proper management and monitoring is critical for the longterm maintenance of listed species populations and their associated natural communities. Examples of TNC-Service stewardship coops include:

Fish Creek , Indiana -- A cooperative effort was initiated to protect populations of diverse mussel species within the creek, including the Federally listed white catspaw, northern riffleshell and clubshell. The Service has targeted wetland restoration money toward a reforestation effort within the riparian corridor of Fish Creek.

Driftless Area NWR, Iowa -- Now in its fourth year, this effort between the Service and TNC's Iowa Field office is designed to monitor the status of northern monkshood on State, Federal and private lands in northeast Iowa. This effort is part of a larger management cooperative effort between the Service and TNC which includes completion of "preserve" designs for high priority sites, initiation of landowner contacts and transfer of protected lands to the refuge system.

"TNC goes beyond species protection to include natural communities and broader ecosystems."

"We need a civilization that can live fully and creatively together with wildness . . . Nature is not just a place to visit, it is home."

-- Gary Snyder in Practice of the Wild



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The following is a list of points of contact for State Endangered Species issues and the total number of State listed endangered or threatened species within Region 3:

Illinois

Deanna Glosser

(217) 785-8774

Illinois Department of Conservation

Lincoln Tower Plaza

524 South Second Street

Springfield, IL 62701-1787

Total endangered or threatened

species: 512

Indiana

Katie Smith

(317) 232-8160

Indiana Department of Natural

Resources

Room W273

402 West Washington Street Indianapolis, IN 46204-2212

Total endangered or threatened

species: 82

Total endangered or threatened species: 324

Lansing, MI 48909-7944

Michigan

(517) 373-9338

Tom Weise

Resources

Box 30444

Minnesota

Bonita Eliason

(612) 297-2276

Minnesota Department of Natural

Michigan Department of Natural

Resources

Wildlife Research and Natural

Heritage Program

500 Lafayette Road

St. Paul, MN 55155-4007

Total endangered or threatened

species: 106

Iowa

Darryl Howell (Animals)

(515) 281-8524 or

John Pearson (Plants)

(515) 281-3891

Iowa Department of Natural

Resources

Wallace State Office Building

Des Moines, IA 50319-0034

Total endangered or threatened

species: 238

Missouri

Dennis Figg

(314) 751-4115

Missouri Department of

Conservation

Natural History Division

P.O. Box 180

Jefferson City, MO 65102-0180

Total endangered or rare

species: 501

Ohio

Dave Ross

(614) 265-6344

Ohio Department of Natural

Resources

Division of Wildlife

1840 Belcher Drive

Columbus, OH 43224-1329

Jennifer Windus

(614) 265-6468

Ohio Department of Natural

Resources

Division of Natural Areas and

Preserves

1889 Fountain Square

Columbus, OH 43224-1331

Total endangered or threatened species: 494

Wisconsin

Randy Jurewicz

(608) 267-7507

Wisconsin Department of Natural

Resources

Bureau of Endangered Resources

P.O. Box 7921

Madison, WI 53707-7921

Total endangered or threatened species: 195

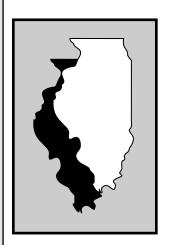
species. 50

ESA offers flexible, effective protection

By Deanna Glosser Illinois Department of Conservation

n late June 1994, a few individuals of the Federally threatened plant decurrent false aster (Boltonia decurrens) were discovered near the construction zone of the Peoria Lake Environmental Enhancement Project, in Woodford County, Illinois. The successful resolution of the Federal and State endangered species consultation process in conjunction with this project illustrates how the Endangered Species Act (ESA) is a flexible protection tool.

This Environmental Management Program - Habitat Rehabilitation and Enhancement Project involved improving



problems associated with sedimentation and lack of habitat diversity in the Peoria Lake area. This project, funded by the U.S. Army Corps of Engineers, is located in the Woodford County Conservation Area, owned and managed by the Illinois Department Of Conservation (DOC). The site includes 178 acres of silver maple association bottomland forest. Decurrent false aster was known to exist within the vicinity of this project but

surveys conducted prior to project approval indicated that it did not exist within the construction zone. Fieldwork being conducted in late June by researchers from Southern Illinois University-Edwardsville, however, revealed a few plants very close to the construction zone.

Two consultation processes were required because of the known presence of a listed species associated with a Federally funded project on property owned by a State agency. Section 7 of the ESA requires that the Federal action agency (in this case, the U.S. Army Corps of Engineers) consult with the U.S. Fish and Wildlife Service (Service) whenever its actions may affect a listed species. Additionally, the State Endangered Species Protection Act requires that all State and local governments consult with the DOC before performing, funding, or authorizing a land-disturbing activity.

A site visit by representatives from the Service, DOC, Corps of Engineers and the contracting firm handling the project was conducted June 30 to assess the potential impacts to the decurrent false aster. A number of individual plants



The decurrent false aster is listed as threatened Federally and by the State of Illinois.

were located within the project area although, according to DOC staff, the total population of decurrent false aster at the site represents less than 10 percent of the total number of individuals of the species. The site visit also indicated that the construction project had likely provided suitable habitat for this species by clearing the trees and providing the openings it requires to flourish.

Because a number of individuals of this species were found within the project area, it was necessary to complete the Federal Endangered Species Section 7 consultation process to determine whether the project would jeopardize the continued existence of decurrent false aster or result in adverse modification of its critical habitat. To initiate the process, the Corps of Engineers submitted a letter to the Service outlining the circumstances and requesting commencement of a formal Section 7 consultation.

he Service's Rock Island Field Office endangered species coordinator, and the Regional Office, were now responsible for preparing a biological opinion. It was critical that the process be completed quickly so a decision could be made in time to allow construction to be completed before inclement weather arrived. The required State endangered species consultation processes could be conducted concurrently.

DOC staff reviewed project details and consulted with Service staff. The DOC consultation concluded that the species as a whole will benefit from the completion of the project and that the potential loss of a few individuals of the plant was acceptable. In fact, the project would benefit the species in the long term by providing additional habitat.

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Extinction takes its toll

By John Schwegman Illinois Department of Conservation

Most of us realize that elk, passenger pigeons, wolves and bears no longer inhabit the prairie State of Illinois, but did you realize that extinction has taken a much bigger toll on our wildlife?

Extinctions can be total or local. Total extinctions are forever and represent the loss of species and the genealogy spanning millions of years that produced them. Local extinctions are more properly called extirpations and refer to the loss of a species from a region or State.

Susan Post of the Illinois Natural History Survey consulted experts and reviewed published records. She concluded that we have lost at least 115 native species from Illinois. Considering how little we know about groups like the insects and fungi, the number is probably much higher.

Her list of extirpated species contains 59 plants, 16 mussels, 12 fish, nine mammals, eight birds, seven insects, and one kind each of snake, salamander, crayfish and shrimp. Of this list, only nine are thought to be total extinctions. These are the leafshell, round

combshell, Tennessee riffleshell and Wabash riffleshell mussels, the passenger pigeon, Carolina parakeet and ivory-billed woodpecker, the Thismia plant and the chewing louse that parasitized the passenger pigeon.

The other 106 species are thought to still exist outside of Illinois.

he destruction or alteration of habitat as exhibited by siltation, land clearing, prairie plowing and wetland drainage seems to be the main cause of our native species loss. However, a few species of birds and mammals were hunted to extinction here for their food value or because they were considered pests. exterminated, largely for their food value, were the passenger pigeon, trumpeter swan, sharp-tailed grouse, elk and bison. Perceived pests included gray wolf, mountain lion, black bear and Carolina parakeet. They were often killed, but also suffered from habitat alteration and loss.

Slightly over one-third of our extirpated species were aquatic, living largely in water. Their loss reflects the decline in water quality in Illinois since settlement. The aquatic organisms include the 16 mussels, 12 fish,

Illinois -- from previous page

On July 15, the Service released the biological opinion stating that the effects of the project, including cumulative impacts, would not likely jeopardize the continued existence of the species. No critical habitat had been designated for this species so none was affected. The release of this document concluded formal consultation, allowing construction to continue

There are a number of lessons learned from this case study. The first is that the ESA can be an effective and efficient tool in protecting endangered and threatened species. Through this process, an agreement was reached that provided appropriate long-term management for the decurrent false aster at this site.

Secondly, the Service can be efficient and effective in implementing the ESA. Service staff worked diligently to complete this process without delaying the project. Coordination between the Service field and Regional office was critical for the timely completion of the review.

Finally, coordination between the Service and DOC was also critical to the successful closure of both consultation processes. Federal-State partnerships can be effective at protecting endangered and threatened species. As a result of both the Federal and State endangered species consultation processes, decurrent false aster will be protected and managed in the long-term and the Environmental Enhancement Project will proceed, benefiting other wildlife species.

hellbender salamander, broad-banded watersnake, lusty crayfish, Ohio shrimp and 12 of the plants.

The single biggest problem with Illinois water quality is probably siltation or turbidity created by soil erosion. Turbidity cuts off light to submerged plants, often killing them. It clogs the filter feeding mussels and, if the silt is deep enough, can bury and kill mussels outright. Siltation also impairs feeding and reproduction of some fishes.

Among the fishes we have lost are the alligator gar, muskellunge, bigeye chub, northern madtom, Ohio lamprey and bluehead shiner. The latter species was extirpated by a chemical spill in the only lake in which it was known to

The blackfin cisco has disappeared from Lake Michigan along with four darters from our streams. Many darters like clean, fast, choppy water of small rivers and creeks. This is becoming a rare habitat in Illinois today.

Of our total plant losses, two were mosses, one a quillwort, one a scouring rush, two were ferns and 53 were flowering plants. Habitat loss, particularly the plowing of prairies and drainage of wetlands, contributed heavily to our loss of plants. Many of them had very limited distribution here and some existed in the Chicago region where they disappeared as the city grew and the land was paved over. Seven of the lost flowering plants were native orchids, which are noted for their rarity and fidelity to unique habitats. The dragon's mouth orchid was among the most beautiful of these.

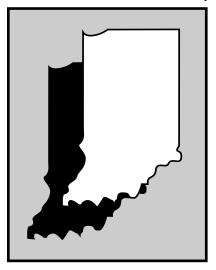
In addition to the birds that were totally exterminated and hunted to extirpation, we have also lost the roseate spoonbill, common raven and eskimo curlew. Other mammals lost are porcupine, marten, fisher and cotton mouse. In addition to the passenger pigeon louse, known insects that no longer live here include the brown lacewing and five butterflies.

Mussels among most endangered group

33 percent of the Region's native mussel species are listed, candidates or extinct

By Bob Anderson Indiana DNR

There are approximately 90 species of freshwater mussels native to the eight U.S. Fish and Wildlife Service states in the Great Lakes-Big Rivers Region. Currently, 16 of those species are endangered, 10 are candidates and four are believed extinct. This accounts for 33 percent of the Region's



mussel fauna. Not included are many species under State conservation status, or those that have already been lost at the State level.

Freshwater pearly mussels are among the most endangered animal groups in North America. This situation is likely to worsen as the exotic zebra

mussel invades the big rivers and lakes of the Region. Many species currently considered stable may soon be jeopardized by this invading exotic mollusk.

Native freshwater mussels present unique conservation challenges, including an extremely long life, a parasitic-like stage, and habitat that is comprised (for most of the endangered mussels) of flowing river systems. Developing a conservation plan that considers these basic requirements is complicated by a lack of basic life history information, limiting the effectiveness of traditional programs such as reintroduction, captive propagation, contaminant regulation, and refuge creation. Also, social acceptance of implementing a large-scale recovery program for an invertebrate has not been confronted. Freshwater mussels have few public advocates which can result in limited effort and funds available to implement recovery objectives.

While the deck appears to be stacked against the continued existence of a significant portion of native North American freshwater mussels, things could change. Most of the endangered mussels exist in stream reaches that have diverse mussel communities, including other rare or endangered species. These few streams, perhaps fewer than a dozen in

Region 3, represent an endangered ecosystem that does have its advocates. Members of the public, who may profess limited interest in conserving mussels, are keenly interested in having an aquatic ecosystem that is healthy enough to support a diverse mussel community.

Fish Creek, in northeastern Indiana, is an example of one of these endangered stream ecosystems. This small stream, which drains only about 100 square miles, contains the last remnants of an aquatic fauna that once existed throughout the western Lake Erie drainage in Ohio, Indiana and Michigan. Three Federally listed endangered mussels exist there, as do three candidate mussels, one candidate fish and three candidate wetland reptiles. The precise reasons for this haven's survival are unclear. Since 1990, however, maintaining it has been an objective of a watershed project that combines efforts of several State and Federal agencies, and The Nature Conservancy in partnership with local landowners, individuals and organizations.

Land use in Fish Creek is largely row crop agriculture. It is thought that the major chronic threat to the aquatic community in this area is from siltation and associated nutrient and pesticide runoff. The use of filter strips, conservation tillage, easements, and other agricultural conservation techniques have been the primary tools to remove these threats. Land acquisition has not been a major focus but remains an option in specific cases.

In 1991, The Nature Conservancy was given a grant to employ a watershed manager to work with landowners. This greatly accelerated the project by increasing landowner contacts and the distribution of information regarding conservation options. Voluntary participation in these programs has increased. A number of local residents have planted trees along the stream corridor, erected fences to keep livestock out of the stream, and switched to no-till farming using cost share funds provided through the watershed project.

he land use changes are too recent for improvements in the mussel community to be documented. The key to the project is that the changes will be long-term and provide mussels the decades they will need to naturally recover. The local perception of the project is largely favorable and most residents care that the stream has good water quality and healthy fish populations. Many residents have a new understanding of the ecological role mussels play and seem to gain satisfaction from their role in helping conserve rare species.

Fish Creek is a pilot project in landscape scale conservation of an endangered community. The heart of the project has been to help the local community become aware of this unique resource. Once aware, the community has valued the resource and been receptive to its protection. To date, use of regulatory options has been discouraged in favor of

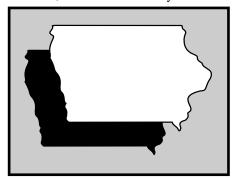
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State makes headway from bats to orchids

By Daryl Howell Iowa DNR

n 1994, the Iowa Department of Natural Resources developed guidelines for surveying potential summer habitat for the Indiana bat. The guidelines are based on the results of radio telemetry studies in Illinois and Missouri, and mist net surveys in Iowa since 1980. The



guidelines
w e r e
developed to
provide the
Department of
N a t u r a l
Resources
with a risk
assessment
system to
determine if

proposed projects would be located in suitable summer habitat for this species. The habitat survey allows the project sponsor and the DNR to make an assessment of the project area to determine if suitable summer habitat is available. If the habitat is determined to be suitable, the project sponsor may choose to conduct mist net surveys or clear trees from August 31 to May 1. Information for private landowners on ways that they can protect and enhance forest areas and wood lots for the Indiana bat and other bat species was also prepared and distributed through the DNR's forestry programs.

The State list of Endangered, Threatened and Special Concern Species was revised. The list of animals was changed by dropping four endangered and threatened species, the adding of one endangered and one threatened species, and the adding of 21 special concern species. The list of plants changed considerably with the reclassification of more than 40 species from endangered and threatened to special concern. Also the list of special concern plants increased by 204 species due to new information and the addition of

species previously classified as "rare" but without official status.

Inventory of the two species of prairie fringed orchids (eastern and western) in Iowa entered its fourth year in 1994, once again drawing upon the experience of botanist Bill Watson of Cedar Falls, Iowa. Although the high precipitation of 1993 indicated a potential record-breaking flowering of the moisture-sensitive orchids, an unusually dry period in April and May of 1994 reversed this trend and resulted in below average flowering of these species. It also frustrated plans to obtain comprehensive censuses of orchids in known localities. However, this disappointment was tempered by the discovery of the largest Iowa population of eastern prairie fringed orchid to date (more than 100 plants along the margin of a restored marsh in eastern Iowa). Overall, Watson's 4year effort has resulted in the discovery or documentation of seven new populations of the prairie fringed orchids in Iowa, including new findings in an additional four counties.

research project by Iowa State University's Dr. John Pleasants, on the response of the western prairie fringed orchid to spring fires, was completed in early 1994. This 3-year study indicated that fire interacts with weather to affect growth and flowering of the orchids: in wet springs, burning stimulates the orchids but, in dry springs, burning reduces flowering and leads to early aging.



The Indiana bat

Indiana -- from previous page

cooperative efforts. Several landowners, who initially resisted the project, have implemented needed erosion controls based communication with projectsupportive neighbors. Many of the participants in the Fish Creek watershed project are involved for reasons other than mussel protection. The mussel community, particularly the listed species, have functioned as a focus to pull diverse interests to a common goal.

Watershed or ecosystem management will not be enough to conserve freshwater mussel diversity. Threats such as habitat alteration, pollution from spills or runoff, and zebra mussels must be addressed. It will be necessary to accelerate research into the basic biology of these animals. Husbandry techniques, if developed, could quickly produce hundreds of even the rarest species, making reintroduction an option. Captive holding techniques for rare individuals of a species taken from

habitats being invaded by zebra mussels must be developed soon or species will be lost.

Fish Creek and the other streams harboring endangered mussels need to be targeted by agencies having the responsibility and resources to protect aquatic communities and water quality. These watersheds can be a temporary haven, important to protecting the fauna until broader improvements in water quality and habitat can be brought about.

Working to save the wolf

By Tom Weise Endangered Species Coordinator Michigan DNR

e did our best to get rid of wolves in Michigan. The ninth law passed by the State legislature in 1838 was a wolf bounty. Some form of bounty or State-supported wolf elimination program remained until 1960. Despite the attempt, wolves were probably never extirpated (made extinct) from the state.

Although population estimates during the 1970s showed only six-to-10 wolves, 16 wolf specimens were recovered in the Upper Peninsula, from 1960-1987. It was assumed that wolves sustained themselves in Michigan through sporadic breeding and occasional immigrations from Ontario, Wisconsin, and Minnesota. For example, one of the three wolves radio-collared in Michigan in 1994 had been tagged as a pup by Dave Mech near Ely, Minnesota, in August 1991.

It wasn't until wolves were nearly gone that positive efforts toward wolf management began. Michigan removed the wolf bounty in 1960, gave wolves complete protection in 1965, and listed the wolf as endangered under the 1974 Michigan Endangered Species Act.

In 1974, Michigan obtained permits to bring a pack of wolves from Minnesota into the state. All four wolves were released in March, but were killed by people by November. These wolves did not reproduce nor contribute to Michigan's wolf population in that short time. The deaths of these wolves made the important role played by people who live in wolf country even more obvious.

A 1990 public attitude survey found increasing support for wolves in Michigan. This favorable attitude change, coupled with increasing wolf numbers in Minnesota and Wisconsin thanks to increased protection provided by Federal and State Endangered Species Acts, sets the stage for recovery

and delisting of wolves in the northern Great Lakes states.

Wolf packs formed in northern Wisconsin during the late 1970s and in the Upper Peninsula during the late 1980s. More recently, pups have been produced every year in Michigan since the reproduction was confirmed in 1991. The 1993 winter survey estimated 30 wolves, and the 1994 winter survey counted nearly 60 wolves in eight packs across the Upper Peninsula. An additional 15 wolves are found on Isle Royale. No wolves live in the Lower Peninsula and none will be introduced there. In fact, no introductions are planned for Michigan and, likely, none will be needed.

The Michigan Department of Natural Resources appointed a wolf recovery team in 1992 to write a wolf recovery and management plan. Final wolf population goals have not yet been determined by the Michigan recovery team, but a review draft of the plan is scheduled for completion by late 1994. The team met with the public in a series of 15 forums across the state in 1993. These forums found a great deal of support for wolves statewide. Education and information programs have been identified as highly important components of successful wolf management and recovery.

In 1994, the combined number of wolves in the Michigan-Wisconsin population exceeded 100 for the first

time in many years. This number is significant because meets the minimum number required in the Eastern Timber Wolf Recovery Plan to begin planning eventual delisting. If the number remains above 100 for a period of five years, the Minnesota



population remains stable or growing, and its continued survival can be assured, wolves will meet the Regional recovery goal and can be delisted. The Upper Peninsula now has suitable wolf habitat and adequate prey populations to support wolves. Deer and beaver numbers, for example, are high.

Although the outlook for wolf recovery is better than it has been for a hundred years, the recovery of wolves is not yet assured. Recovery could be complicated by disease, parasites, or unforeseen causes. Another challenge may be the need to allow the take of wolves. If wolves far exceed viable population goals or occupy areas where they are not wanted, some method of take could be justified and required.

With vigilance and a free flow of information between agencies and the public to resolve many issues, we can insure the long-term survival of wolves.



The gray wolf

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Several wet seasons helpful to western prairie fringed orchid

By Bonita Eliason and Nancy Sather Minnesota Natural Heritage Program Minnesota DNR

It's been a good year for the western prairie fringed orchid (*Platanthera praeclara*) in Minnesota. In mid-July thousands of stalks of delicate white flowers with distinctive, fringed lower margins nodded in the prairie breeze. Minnesota has both the largest number of viable populations and the largest known populations of this species. It is listed as threatened at the Federal level and endangered under the State endangered species law. Outside of Minnesota, the species exists in six states and Manitoba, Canada.

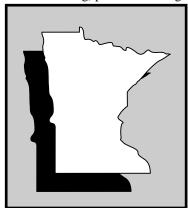
The portions of the state that harbor the largest populations have received average or above-average precipitation over the last several years, and this may be responsible for an apparent increase in numbers of flowering plants in populations that were severely impacted by drought in the late 1980s. In addition to high numbers of flowering plants at many known sites, in at least two cases the orchid has

The western prairie fringed orchid

been rediscovered at historical sites where it has not been seen in years.

The western prairie fringed orchid is a species of North American tall grass prairie. It is found most often on unplowed, calcareous (calcium containing) prairies and sedge

meadows. Prairie once covered more than 18 million acres in Minnesota, extending from the northwest to southeast corners of the state. The fertile prairie soils have been largely converted for agriculture so that now less than 0.1 percent of the original prairie



remains in the state. In view of this, it's not surprising that species like the western prairie fringed orchid, which are dependent on prairie for their survival, have declined in abundance.

This orchid depends upon its pollinators, as sexual reproduction is believed to be the principal means of production of new individuals. The white flowers are fragrant at night, and have a long spur containing nectar, all characteristics of plants pollinated by moths. Several species of prairie hawk moths have been suggested as potential pollinators, but more research is needed.

Monitoring of Minnesota populations has been conducted for the last eight years by the Minnesota Natural Heritage Program. Results of this work indicate that although some plants may flower for as many as eight successive years, individual plants can also disappear for a number of years, and then reappear. In contrast, demographic data from the Sheyenne grasslands in North Dakota seem to indicate that the orchid is shorter-lived than formerly believed, and that once plants have disappeared, they are gone for good. The explanation for this apparently conflicting data remains a mystery.

The second factor making this a good year for western prairie fringed orchid is that the draft recovery plan has been circulated for technical and agency review. This is good news because recovery and subsequent removal of a species from the Federal endangered species list is guided by this important document, and thus its completion will signify that serious recovery work can begin. As identified in the plan, the primary threat to the continued existence of this species is destruction of its habitat by a number of factors, including cultivation, overgrazing, and drainage. Recovery tasks

Continued on next page

A test case for ecosystem management

Niangua darter recovery

By Dennis Figg **Endangered Species Coordinator Missouri Department of Conservation**

The U.S. Fish and Wildlife Service and the Missouri Department of Conservation (DOC) are busily implementing actions designed to recover the Federally threatened Niangua darter. This small perch is restricted to clear gravelly Ozark

streams in the Osage River basin. Recovering darters is a stream management challenge requiring an ecosystem management approach.

For the most part, however, the habitat of the Niangua darter is managed by private landowners. The Service and DOC are committed to Niangua darter recovery, but what about Ozark landowners? If Niangua darter recovery is successful, it will be because private landowners and public resource agencies came together to improve habitat and water quality in Ozark streams.

Niangua darters have suffered from significant habitat loss

over the last few decades, due primarily to the creation of four large reservoirs (Lake of the Ozarks, Pomme de Terre Reservoir, Stockton Lake and Truman Reservoir). Though more than a hundred miles of habitable streams are still available to darters, individual populations have been

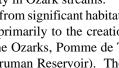
separated from one another and the risk of genetic decline is likely for smaller populations. To further threaten darter populations, currently occupied stream reaches are declining from poor land use choices: land clearing, channelization, sedimentation and nutrification (nitrogen and phosphorus loading from humans and livestock pose serious threats to water quality, changes that will eventually threaten many aquatic species).

> The decline of Niangua darters, now unwitting representatives for many species of Ozark fish, is a warning signal that Ozark streams are not as healthy as they should be. That's the message that we need to share with private landowners in the current range of the Niangua darter. Finding fault and pointing fingers at the presumed-guilty is not an effective recovery strategy. Getting private landowners to appreciate that we have a problem and then to care about the health of Ozark streams is a big step

toward recovery.

One of the most serious threats to Ozark streams in the range of the Niangua darter is beef and dairy cow production. Missouri is one of the leading cattle states in the nation and the grasslands of the Ozarks have long been a place to raise

Continued on next page



Orchid -- continued from previous page

include research, monitoring, and the development and implementation of management guidelines. In particular, questions relating to pollinators, and the timing of land management practices such as grazing and burning are priorities for continued research.

Finally, 1994 was a good year for western prairie fringed orchid because a successful two-day workshop on the species was sponsored by the Minnesota Department of Natural Resources, the University of Minnesota at Crookston and the Minnesota Chapter of The Nature Conservancy, June 27-28. Partial funding for the workshop was provided by a grant from the U.S. Fish and Wildlife Service. The workshop brought together staff of seven natural resource agencies from Minnesota, North Dakota and Manitoba, as well as independent researchers from Iowa, Illinois, and Missouri. Sessions included reports on all ongoing demographic studies of the species, an overview of management on Minnesota's Pembina Trail Preserve and North Dakota's Sheyenne National Grasslands, reports of research related to fire and patchy distributions, and two

mini-classes on statistical sampling methods.

Some key points became apparent during the workshop. For example, despite almost a decade of study, little is known about the orchid's life history that is relevant to its management. Land managers stressed the need for such information, and indicated a willingness to participate in experiments to gather information that is currently lacking. Other points raised during the workshop included: soil moisture clearly influences flowering and survival; different levels of sampling intensity are required to meet the needs of managers and researchers; data on comparable variables is needed from all populations being studied; and more information is needed on the life history of the pollinator(s).

Workshop participants left with some new insights, and Minnesota Heritage Program staff are optimistic that with continued cooperation of the various agencies and landowners responsible for lands containing western prairie fringed orchid, and continued support from the Service's Endangered Species Program, recovery of this species can be accomplished.

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Darter -- from previous page

them. Cattle production is an important source of income for many landowners and is cost effective in part because water is readily available. But cattle freely roaming in Ozark streams is a major source of sediments and organic enrichment. Resource managers are working with landowners, encouraging them to move watering areas into the pasture and away from the stream. Fencing off the stream and reestablishing a filter strip of trees will also improve water quality. Sharing the costs of these improvements will continue to be an important tool to better manage Ozark streams.

qually serious is that Ozark streams have traditionally ✓ been an important source of gravel, not just for private individuals but for county road maintenance and highway development. Gravel from local streams seems an inexhaustible resource with little or no impact to stream fauna. The impact, however, is especially significant when done year after year in many locations while Ozark fish are spawning. The Army Corps of Engineers, DOC and the Service have developed guidelines that explain where and when to obtain stream gravel in a way that is less threatening to aquatic fauna. The solution to this threat to stream quality is not to put a stop to gravel removal entirely. It is, after all, a locally available natural resource that is in demand. Instead, we are educating gravel operators and private landowners about how and where to get gravel in ways that are more ecologically sound. Progress is being made on both of these issues, but successfully reducing nonpoint source pollution will require increasing participation from the Missouri Department of Natural Resources and the Environmental Protection Agency. More partners for recovery of Niangua darters will be recruited.

Many Ozark streams still offer sport fishing, water recreation, and a diverse fish fauna. Fisheries managers in southwest Missouri, however, know that much of what they do is tied to stream health and that the continued



The Niangua darter

decline of the Niangua darter represents more than the loss of one fish species.

That's why the task of recovering Niangua darters is being led by fisheries managers. Their expertise and the actions they recommend are the essential moving force in recovery. Fisheries staff in southwest Missouri are locally known individuals who care about streams, lakes, and ponds in the immediate area. They share in the fisheries resources just like local landowners. DOC fisheries managers have a long history of being accessible to the public for fish management information. As a result, when misinformation lack or understanding about darter recovery begins to worry local landowners or their political representatives, fisheries managers are there to share the real story, provide information, and offer to work out solutions that are in tune with the people who live in the area. Private landowner contacts are crucial to success, and these efforts are supported by the Service through programs such as Challenge Grant.

Recovering this species will be successful because the agencies and individuals tackling darter recovery are working together and coordinating their actions through the leadership of an effective recovery team. The Corps of Engineers has changed the permit requirements for in-stream gravel removal and encourages landowners to follow the new guidelines. The Service's Ecological Services staff reviews Federal actions and facilitates

participation from other Federal agencies. The DOC and Service monitor on-the-ground activities, and DOC is taking the lead in contacting private landowners. The end result is that the people with the most at stake and the most opportunity to recover Niangua darters are being educated about Ozark streams and recruited into stream protection.

Missourians are committed to Niangua darter recovery, but then, they have to be. This Federally threatened fish is endemic to southwest Missouri. Recovering this fish is, well . . . it's our problem. And since it's primarily a private land issue, private landowners need to understand the problem and become part of the solution. Not that all of them are fans of Niangua darters, but they don't have to be. Many of them aren't wade fisherman, froggers or duck hunters, but everyone in the neighborhood of Niangua darters must grow to appreciate that protecting Ozark streams is an important and worthy goal. If we do that well, keeping a small colorful perch called the Niangua darter is a bonus.

n Missouri, we have high hopes that Niangua darter recovery will be successful. It will be successful because fisheries managers with a vested interest in Ozark streams are working closely with the private landowners who own Ozark streams. An ecosystem management approach is really the only option, as protecting Ozark fish is not possible without also protecting the streams they inhabit.

Ohio discovery -- the purple catspaw

David F. Ross Division of Wildlife Ohio DNR

Sometimes you're lucky. Sometimes you're good. Sometimes both.

In 1991, Dr. Michael Hoggarth, Assistant Professor of Biology at Ohio's Otterbein College, found both halves of a recently dead purple catspaw pearly mussel (*Epioblasma o. obliquata*) along the Walhonding River.

The purple catspaw is both a Federal and Ohio designated endangered species that, until 1991, had not been seen alive in Ohio for over 150 years.

This mussel historically was found in the Ohio River and its larger tributaries in Ohio, Indiana, Illinois, Kentucky, Tennessee, and Alabama. In recent years, only two small apparently nonreproducing, populations were known.

Until 1991, Ohio records for the purple catspaw were limited to the lower Muskingum River, which is a tributary to the Ohio River, and to the mainstem Ohio River.

Following his discovery, Hoggarth searched the Walhonding intensively over the next two years to find the source of the catspaw shell, but found nothing. It remained a mystery.

In September 1994, Hoggarth was asked by Dan Rice, an Ohio Department of Natural Resources biologist, to accompany him on a search for sand darters in Killbuck Creek, a tributary

of the Walhonding River. The sand darters were found rather quickly, so Hoggarth set about picking up and examining the few mussel shells that were in evidence along the stream.

He found another purple catspaw, both halves still connected, with the nacre (the pearly coating inside of the shell) purple and glossy, showing no signs of weathering. He knew it was an individual only recently dead.

The search began in earnest and, by the end of the day, four fresh dead and two living catspaws had been found.

One week later, a search at two different locations turned up 19 fresh dead and 13 living specimens. Living catspaws from both collections were immediately replaced.

Both male and female mussels were found alive and cursory examination suggested that all of the mussels observed represented a relatively wide range of ages. Of the fresh dead specimens, a high proportion included both halves, many still connected by the ligament. A single, small muskrat midden (refuse heap) yielded the largest number of fresh dead specimens.

This surprising discovery has caused those in Ohio who are interested in the conservation of our native mussels to reflect on its meaning. I draw from the experience two lessons.

First, even though Ohio's mussel fauna is one of the most surveyed in the nation, we are still learning about the



distribution and abundance of our species. Second, our lack of understanding of the structure and function of river systems, and of the habitat and other needs of freshwater mussels, greatly limits our ability to perform effective mussel conservation.

What happens next? The Division of Wildlife plans to begin next summer, with support from the U.S. Fish and Wildlife Service, an extensive survey of Killbuck Creek and its primary tributaries. We also will begin drafting a recovery plan for the purple catspaw.

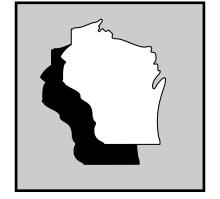
Hoggarth, under contract to the Division of Wildlife, will begin his long-term study of the effects of changes to physical habitat on the distribution and well-being of freshwater mussels in the Walhonding River.

I suspect that Killbuck Creek will become part of that study.

Care, cooperation yield protection

By David Kopitzke Landowner Contact Specialist Wisconsin DNR

"The gas company is just about to dig up our patch of rare wild irises," the agitated voice over the phone said. The caller, a private landowner in northern Wisconsin, was someone I had gotten to know about a year earlier. When the dwarf lake iris was in full bloom, I had arranged a visit with him and his family. Representing the Wisconsin Bureau of Endangered Resources, I had two purposes in visiting this family: to provide the landowner with information about this very rare native plant and to begin to negotiate a voluntary



protection agreement between the private landowner and the Wisconsin Bureau of E n d a n g e r e d Resources of the Department of Natural Resources (DNR).

The dwarf lake iris is a rare plant, listed as "threatened"

Continued on next page

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These unique certificates were created by David Kopitzke and are presented to landowners in appreciation of their efforts to help manage the endangered, threatened or candidate species found on their property.











Wisconsin -- from previous page

under the provisions of the Federal Endangered Species Act. It grows in only two counties in the far northeastern corner of Wisconsin. The iris grows best in gravelly or sandy openings in mixed woods near Lake Michigan. Outside of Wisconsin, it grows in similar, though very restricted, sites near the shores of Lakes Michigan, Superior and Huron. At the few locations where it thrives, the dwarf lake iris forms a carpet of glowing purple on the forest floor in early May.

As is the case in many Midwest states, most of the land in Wisconsin is privately owned. With 80% of the state's land in private hands, the Wisconsin Bureau of Endangered Resources realized that rare species protection must include the private sector. But how best to do this? The legitimate rights of landowners must be respected, of course. Education and voluntary protection agreements seemed the best solutions.

Building on a history of working with private landowners, the Bureau of Endangered Resources began a formal Landowner Contact Project in 1991. The planners of the project began with two critical thoughts. Everyone agreed that landowners' rights must be meticulously and sensitively respected, and it was assumed that most landowners want to do what is best for

their own land and its inhabitants.

A system was devised and tested on two Federally listed rare plant species: the dwarf lake iris and the dune thistle. The system involves seven steps:

- * Research is done on where these plants were found in past decades by botanists, biologists and naturalists.
- * At local courthouses, the names and addresses of the current owners of these sites are found.
- * The current landowners are contacted by letter and telephone. Accompanying the letter is an illustrated information sheet about the iris or the thistle. With the permission of the landowner, a visit is scheduled.
- * During the course of the visit, the biology of the rare species is discussed along with conservation matters in general. This step turned out to be a critical one. This is the time to dispel myths about excessive government control. This is the time to convey the project's sincere respect for the landowner as an individual and as a property owner. These visits often end with the landowner and the Bureau of Endangered Resources employee walking the land together, looking for the species, getting to know one another and often admiring the property.
- * Sometimes during the course of this first visit, but usually after two or three contacts, the matter of a protection agreement is broached. The bureau

wants to achieve as much protection for rare species as is reasonably possible, but it's sometimes difficult to determine just what is reasonable.

- * Once an agreement is signed, the Bureau sends a color illustration of the iris or the thistle to the landowner along with a personalized certificate.
- * A critical final component of this process is keeping in touch with these landowners to achieve protection.

The importance of this final step was proven in the case of a gas company and a dwarf lake iris site. It was a landowner making the call to warn us about the gas company's extension of its lines. A landowner who had earlier signed an agreement with the bureau and who kept alert to activities in the neighborhood of the iris.

Following the landowner's initial call, there were others to and from district DNR representatives and to the gas company itself. The gas company proved to be wonderfully cooperative, moving their gas line closer to the road, thus avoiding numerous iris plants.

In May 1994, I was back in northeastern Wisconsin at the height of the dwarf lake iris bloom. The concerned landowner and I walked the area where the gas line had been laid, observing the undisturbed iris just feet away. We visited a neighbor who ultimately followed suit in signing an agreement with the Wisconsin Bureau of Endangered Resources.

"A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise."

Aldo Leopold A Sand County Almanac



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The changing face of endangered species

By John Blankenship ARD, Ecological Services

Several years ago, the Endangered Species Program in the Great Lakes-Big Rivers Region was centered around the efforts of a few people in the Regional Office. Beyond these few people, the Endangered Species



Act was not well understood within the Region. When the Act was mentioned, it

was usually in the context of things that were going on in other parts of the country, like the Pacific northwest or the southeast.

When the Endangered Species
Program was folded into Ecological
Services in 1986, many believed that
the fit was unnatural and that
traditional Ecological Services
activities would suffer from the
consolidation. In fact, this was the
beginning of a transition that has
made endangered species review an
important part of the land and water
project regulatory review process, and
has lead to endangered species
concerns and priorities being folded
more and more into the perspectives
and activities of all Service programs.

hen a Service biologist processes a Federal permit application, whether it be for a Federal Energy Regulatory Commission permit, a Section 404 permit, or a permit for a proposed highway development, one of the first steps is to look at the "endangered species connection." In many cases, the Federal action will initiate a formal Endangered Species Act Section 7 consultation. The consultation process allows the Service to make recommendations to

a project design that will lessen its impacts on endangered species whose habitat is within the development zone. For example, a recent consultation on the Highway 31 bridge crossing in southwestern Michigan resulted in major efforts to protect one of the nation's few remaining populations of the Mitchell's satyr butterfly. Design modifications were negotiated that will allow the project to proceed while affording protection to the butterfly.

"Endangered species activities have 'come of age' with new emphasis placed on important sections of the

Many contaminant projects also have an endangered species emphasis. Our efforts to understand high pesticide use in the Region led us to look at the potential impacts to endangered species. Focus was placed on the bald eagle and known variances in its nesting success along the Great Lakes shoreline versus that of inland areas. In studying blood and tissue samples from bald eagles, we learned that high levels of contaminants were impacting nesting

success. The source of contaminants was from the food items taken along the Great Lakes shoreline and tributaries. Such information allows the Service to direct efforts toward restoration and cleanup of contaminated areas along the Great Lakes.

ndangered Species activities are beginning to take ✓ increasing emphasis on our refuges. We have refuge staff who are leaders in endangered species protection and recovery efforts. One such example is Necedah NWR, Wisconsin, which is directing major efforts toward restoration of habitat for the endangered Karner blue butterfly. The refuge, State and private partners are working on a Habitat Conservation Plan to ensure the continued viability of the Karner blue. Another is the Driftless Area National Wildlife Refuge, Iowa, where Iowa Pleistocene snails and northern wild monkshood are protected in rare habitat.

Our Fisheries program has also included endangered species activities, with plans on the drawing board to address the status and needs of several rare fishes and 16 species of endangered freshwater mussels.

Endangered species activities in this Region have "come of age" with new emphasis placed on important sections of the Act and with increasing endangered species expertise at the field level. Now, endangered species aspects are intertwined with the day-to-day activities of Ecological Services offices. And, because endangered species is a cross-cutting issue, many other Service program offices are involved as well. With this new level of activity, Service personnel in the Region have taken notice of the Act and the additional facet of resource management it represents.

Activities apply principle to practice

By Sue Haseltine Former Assistant Regional Director Refuges and Wildlife

So much to do -- so little time. There is a reason why these old cliches hold true so often. When the first endangered and



candidate species were defined in 1973, there was little appreciation for either the commitment or the work load they would impose on the land management side of the agency. At first, the large predators -- the "charismatic megafauna" -- were the focus of much effort. I can remember the excitement when some of the first bald eagle

transplants and peregrine falcons started showing up on the refuges along the east coast. Both the refuge staffs and the public pitched in and helped with recovery efforts and recording information which enabled us to create success stories on public and private land.

As the focus of endangered species efforts grew to include those that used specialized habitats and those that existed in rare biological communities, the refuge system started acquiring land specifically geared at endangered species recovery. Examples of this in Region 3 include the Kirtland's Warbler NWR, which consists of scattered parcels of habitat managed for jack pine regeneration on the Lower Peninsula of Michigan; and Driftless Area NWR in Wisconsin, Illinois, Minnesota, and Iowa, where the endangered Iowa Pleistocene snail, northern monkshood, Leedy's roseroot and 10 candidate species are being protected on algific talus slopes and cliffs. These slopes are associated with caves and fissures caused by ice formation and erosion of rock by water. Small sinks hold water and create refuges of habitat for these unique species maintained by the constant outflow of cool air. Refuge protection consists mainly of fencing and signing areas to prevent access for dumping, four-wheel drive vehicle passage, and plant collection.

Nationally, there are over 52 national wildlife refuges established for the express purpose of endangered species protection. In reality, though, all refuges and Wetland Management Districts are legally and administratively mandated to conserve endangered species. In fact, one of four primary goals of the refuge system is "to preserve, restore, and enhance in their natural ecosystems all species of animal and plants that are endangered and threatened with becoming endangered." At least 357 of the 502 refuges host

178 listed and 360 candidate species. On 17 refuges, endangered species have been reintroduced to habitats from which they were extirpated. In these cases, and in those areas where refuges have viable populations of endangered or candidate species, refuge employees can play vital roles in species recovery by development of reintroduction techniques, land management practices, and monitoring plans which can be used on other public and private lands to help endangered species and more accurately assess both threats to them and opportunities for recovery. One example from Region 3 is the ongoing work with Karner blue butterflies at Necedah NWR. Fire regimes; butterfly, soils, and lupine surveys; and altered timber harvest practices are all being used simultaneously to develop the best management practices for Karner blue butterflies.

s more information is disseminated on the potential ranges and biological needs of candidate species, the refuge system can take a larger role in surveys for species and the habitats critical to their survival. Because refuges in Region 3 have already organized into Management Districts to provide both easement management and private lands technical assistance and restoration projects outside refuge boundaries, emphasis on endangered species assistance and restoration activities can be incorporated with relative ease. As the human population of the area grows and human impacts further fragment and degrade biological communities, the need for protection and restoration of critical habitats on public and private lands for endangered species will increase. Whether in control of exotic species and manipulating water regimes to protect western prairie fringed orchids, or restoring oak savanna communities for Karner blue butterflies, refuges will be both conserving our base and developing information valuable to all interested in the conservation of biodiversity and of our declining and endangered species.

inally, because the refuge system hosts 35 million visitors each year and has an expanding emphasis in environmental education centered around urban refuges, staff can integrate environmental concepts and provide public outreach in a variety of ways which benefit endangered species conservation. Messages portrayed on refuges continue to evolve as the field of conservation biology evolves and refuges redefine their capabilities. The conservation of ecosystems and the species unique to each biological community will continue to be a theme into the 21st Century, as refuges and Service partners provide safe havens for all to enjoy and a reminder of the wild places and creatures that are our natural heritage.

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Aquatic ecosystem protection needs Service's collective effort

By John Christian Assistant Regional Director Fisheries and Federal Aid

A recent New York Times article entitled, "Water-based Animals are Becoming Extinct Faster than Others" reports that, "Fish and other animals that live in North American waterways are disappearing much faster than land-based



fauna, survey data indicate. And without broad measures to protect water-dependent creatures from such threats as pollution . . . the rate of aquatic extinctions is likely to accelerate. . . Indeed, while few were looking, many aquatic species recently disappeared, sometimes leaving gaping holes in the food chain and always diminishing

"Fish and other

North American

faster than land-

data indicate."

waterways are

animals that live in

disappearing much

based fauna, survey

forever the biological diversity that keeps the earth genetically healthy . . . "

Let's take a look at the trends of aquatic species versus birds and mammals.

According to The Nature Conservancy, 7 percent of U.S. mammals and birds are extinct or imperiled. This compares to 20 percent of fishes, 55 percent of freshwater mussels and 36 percent of crayfish imperiled or actually extinct. Only 4 percent of listed aquatic species have shown signs of recovery.

Let's look at fish specifically.

According to the American Fisheries Society, out of 1,061 species of native freshwater fishes in North America, 364 species are listed as endangered, threatened or are of special concern, and 40 species are extinct. Sixteen have gone extinct since 1964. The primary documented cause for these declines is the widespread degradation of aquatic habitats.

Based on the documented declines of species and loss of biodiversity, Congress passed the Endangered Species Act of 1973.

ou might be asking yourself at this point, "Okay, so we are losing species, so what! The dinosaurs went extinct and we're doing great without them!" Right. And the people in the movie "Jurassic Park" would no doubt agree! But endangered species do have values to society which led to our elected representatives passing the Endangered Species Act. What are those values?

- * Endangered species are part of our country's natural heritage and should be preserved.
- * Endangered species are our environmental barometers or "canaries in the coal mine" warning us of environmental situations that could affect human life.
- * Endangered species have utilitarian value for a range of activities such as agriculture, medicine, hunting, fishing, and wildlife watching.
- * Endangered species have scientific value. We can learn much about the life that sustains us by studying endangered species in their habitats, and their possible future uses in medicine.
- * Endangered species have spiritual and aesthetic value. They are a source of personal and emotional fulfillment for many, appreciated for their beauty, complexity or rarity.
- * Endangered species have intrinsic value for some people, meaning that the simple right to exist is respected.
 - * Endangered species have value for the survival of other

species with which they are interconnected (including humans).

- * Endangered species have educational value. The plight of these organisms can raise public awareness about the nature of environmental problems. And success in saving one species can serve as a model for strategies that would save others.
- * Endangered species have value by virtue of their legal status. They are a legal force for conservation and protection of our natural environment.
- * Endangered species are the "bottom line" reminder that we have an ethical responsibility to protect and conserve nature of which we are a part.

Does everyone believe that the benefits of preventing the extinction of a species are worth the cost to society? Hardly. Look at the spotted owl controversy. This situation and others like it have lead to a great national debate as Congress considers the reauthorization of the Endangered Species Act.

But within the Fish and Wildlife Service it is very clear to me that the Fisheries and Federal Aid programs have much to offer in our collective efforts to protect and restore endangered species. We need to focus our collective efforts on these problems through the ecosystem approach—and continue to work together as a team and not worry about program turf.

I know we can do it!

Enforcing the Act

By R. David Purinton Assistant Regional Director Law Enforcement



Special Agents and Wildlife Inspectors enforcing the protection provisions of section 1538 of the Endangered Species Act (ESA) have recorded several success stories which served as role models of a Federal law that worked. Prohibited acts found at Section 1538 include the import, export, interstate, or foreign sale of listed animals and plants (including parts) unless a permit is first obtained. It is also illegal to kill, harm, harass, or remove protected species from the wild. While habitat destruction is the most serious threat to wildlife, illegal take and commercialization have caused the rapid decline of many populations to the point of being listed as threatened or endangered throughout the United States.

The deterrent resulting from successful investigation coupled with vigorous prosecution have enabled populations of American alligators, bald eagles, eastern timber wolves, Aleutian Canada geese and American peregrine falcons to favorably respond to recovery efforts. While stationed in California in the mid-seventies, I vividly remember law enforcement's active role in recovery efforts of Aleutian Canada geese, American peregrine falcons, California sea otters and California condors.

A review of the investigative card file in the Twin Cities office documents a strong law enforcement field presence in matters relating to timber wolves and bald eagles; and more recently, the Karner blue butterfly and Indiana bat.

Saving foreign listed species is accomplished primarily by the Region's wildlife inspectors enforcing ESA's import and export provisions, as well as provisions relating to the Convention of International Trade in Endangered Species (CITES) signed by over 115 countries. Wildlife inspectors at Chicago, Detroit, and the Twin Cities are effectively closing domestic commercial markets for endangered species products including elephant, walrus and whale ivory; sea turtle leather; pet birds, including parrots; live reptiles; and other listed species of animals and plants. The cause and effect relationship between declining endangered wildlife populations and commercial exploitation document the importance of CITES implementation and the Region's wildlife inspection program and allows cautious optimism that poaching will cease when markets dry up.

Law enforcement responsibilities under ESA will grow proportioned to the Region's human population and resulting environmental degradation. Future law enforcement activities in the Region may take on a more controversial role involving Service programs, and other Federal and State agencies, as we try to halt certain activities. These include pollution and habitat destruction, and illegally taking some of the lesser known insects, reptiles, crustaceans, and plants. Finally, the growing trend of expanding ESA's habitat protection provisions, while technically and lawfully correct, may prove to be a two-edged sword in the form of increased Congressional attention regarding our management of the Act.

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"To keep every cog and wheel is the first precaution of intelligent tinkering."

Aldo Leopold A Sand County Almanac



Soaring 'Hope' signals return of bald eagle

Editor's note: The following article is reprinted by permission from the July 1994 issue of *Fish and Wildlife News*.

America's efforts to save endangered species reached an important milestone with the recent announcement by the Fish and Wildlife Service that the bald eagle has recovered sufficiently to change its status from "endangered" to "threatened" in most of the nation.

"All Americans can take pride in the

eagle's recovery, because it represents a fulfillment of our nation's commitment to protect its wild heritage," said Service Director Mollie Beattie.

In ceremonies at Blackwater NWR, Maryland, June 30, Director Beattie announced a proposal to change the status of the nation's symbol from "endangered" to the less dire category of "threatened" throughout the lower 48 states, except in the Southwest.

She marked the occasion by releasing to the wild a 10-pound adult female bald eagle nicknamed "Hope". The eagle had been rehabilitated at the Baltimore Zoo and Tri-State Bird Rescue and Research in Newark, Delaware, after suffering a broken wing.

"With the release of this bird, we rejoice in the recovery of not just this eagle, but the recovery of bald eagle populations in most of the nation," Beattie said. "The recovery of this species is a great success story. This Independence Day we will have additional reason to celebrate with the return of the bird that symbolizes our country's freedom and fierce pride."

Bald eagle numbers in the lower 48 states have climbed from about 417 nesting pairs in 1963 to more than 4,000 pairs of adult birds in 1993 (the Service

compiles population data only for bald eagle nesting pairs).

According to Jody Millar, the Service's bald eagle recovery coordinator stationed in Rock Island, Illinois, a cleaner environment, habitat protection, strict law enforcement, active management and public awareness all have contributed to the return of the bald eagle.

"The eagle's recovery is a tribute to the success of the Endangered Species Act and other conservation laws, and



Members of the national media anxiously await Hope's release by Director Beattie at Blackwater National Wildlife Refuge, Maryland.

to the selfless efforts of the many, many people who have worked so hard to bring the eagle back from the brink of extinction," Director Beattie said.

Currently, eagles are listed as endangered in 43 states and as threatened in Minnesota, Michigan, Oregon, Washington, and Wisconsin. The Service's proposal would reclassify the eagle to "threatened" throughout the lower 48, except in Arizona, New Mexico, western Texas, western Oklahoma, and a small portion of southeastern California, where it would remain listed as endangered. Eagle populations in Alaska are considered healthy and are not listed as endangered or threatened.

The Service is proposing to retain the "threatened" classification for bald eagles because the species, while

greatly improved, is not considered fully recovered. Concerns remain about contaminant problems in the Great Lakes Region and for Southwestern bald eagles. A threatened designation more accurately reflects the species' improving status, but does not remove the protections afforded the bald eagle under the Endangered Species Act. The eagle is also protected under the Eagle Protection Act, the Migratory Bird Treaty Act as well as under various State laws. Its status under those statutes

would not be affected by the Service's proposal.

Bald eagles in the southwestern United States would remain designated as endangered under the proposal because the eagle population in that region is small (about 30 nesting pairs), is isolated from other populations, and is still vulnerable to natural or human-caused catastrophic events.

Historically, bald eagles nested throughout most of North America, including 45 of the lower 48 states. But by 1940, habitat loss

and uncontrolled shooting prompted Congress to pass the Eagle Protection Act, which prohibited killing or selling bald eagles.

Eagles continued to decline, however, as widespread use of DDT after World War II caused reproductive failure among eagles and other bird species. The bald eagle was declared endangered in 1967 when Congress passed the first Endangered Species Act.

Recovery activities for the bald eagle have included securing suitable habitat and reintroducing eagles into unoccupied habitat.

Many states have reestablished nesting populations by translocating young eagles from areas where populations are healthy, raising them

Continued on next page

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Tamarac NWR home to record 25 eaglets

Joins in nation's eagle success

By Larry Dean Public Affairs

Region 3 celebrated the bald eagle's proposed status change from endangered to threatened by sharing a local success story at Tamarac National Wildlife Refuge, Minnesota, July 1. To share the

Retuge, Willinesola, July 1. To share the Thic terringe so

KTHI Television reporter Mel Stone zooms in on one of the active nests at Tamarac NWR, during the July 1 celebration for the eagle's proposed status change.

story, Regional media were invited to Tamarac where they could view an active bald eagle nest from the air and on the ground. Region 3 pilot Bob Foster flew reporters on numerous low passes of the active nest and then reporters commuted to the refuge to wade through the summer vegetation to film a pair of eaglets sitting proudly in their nest, within weeks of learning to fly

The refuge staff sighted a new record

of 25 bald eaglets in 15 nests during the 1994 bald eagle production survey. The refuge is located northeast of Detroit Lakes, Minnesota, in Becker County, a county with a total of 51 confirmed bald eagle nesting territories.

This local success story for the bald eagle reflects what can be found in many areas of the country, as eagle numbers continue to soar. The efforts of Americans save endangered species reached an important milestone June 30, when the Service announced that the bald eagle has recovered sufficiently to change status

endangered to threatened in most of the nation.

In Minnesota, numbers have climbed from 115 occupied nesting territories in 1973 to 565 occupied territories in 1993. The numbers represent pairs of adult bald eagles that are occupying a territory (nesting area). Since not all pairs nest or are successful in nesting, production figures are based on actual observation in the summer.

On Tamarac NWR, eagles produced an average of 14 young annually during the 1980s and have averaged 20 young per year in the 1990s. As recently as 1979, Tamarac surveys resulted in only three active nests observed, compared with this year's 18 nests. Upper Mississippi National Wildlife and Fish Refuge, based in Winona, Minnesota, also had a great eagle year with 41 active territories producing 57 eaglets in 1994, compared to only 13 eaglets in 1986.

In the remaining seven states of the Service's Great Lakes-Big Rivers Region, numbers have also improved:

Illinois -- One occupied territory in 1973 and 12 territories in 1993.

Indiana -- Zero occupied territories in 1973 and 13 occupied territories in 1993.

Iowa -- Zero occupied territories in 1973 and 31 occupied territories in 1993.

Michigan -- Eighty-three occupied territories in 1973 and 246 occupied territories in 1993.

Missouri -- Zero occupied territories in 1973 and 14 occupied territories in 1993.

Ohio -- Seven occupied territories in 1973 and 24 occupied territories in 1993.

Wisconsin -- One-hundred six occupied territories in 1973 and 465 occupied territories in 1993.

Tamarac NWR was established in 1938 to serve as a breeding ground and sanctuary for migratory birds and other wildlife. The nearly 43,000 acres of the refuge were purchased with funds from sale of the Federal Duck Stamp. Today, Tamarac NWR is a haven for waterfowl, bald eagles, gray wolves and hundreds of other wildlife species.

Hope -- from previous page

and releasing them to the wild. When mature, these eagles return to the release site to nest. These ongoing programs, many of them funded through Section 6 of the Endangered Species Act, coupled with the 1972 ban on DDT, have helped boost eagle numbers in much of the species' range. Protection of eagle nest areas and vigorous law enforcement and public

awareness campaigns to reduce illegal shooting of eagles also have contributed. Many private groups have dedicated themselves to rehabilitating injured eagles so that they can be released to the wild again.

The Service's proposal was published in the July 12 Federal Register. A final decision on the proposal will be made by the Service within one year.

Neosho NFH exhibit features the threatened Ozark cavefish

By David Hendrix Neosho NFH Manager

In 1989, an employee from the Neosho National Fish Hatchery, Missouri, entered the station's underground spring water collection box (a concrete structure measuring 90-by-30 feet where water is collected and then piped to the hatchery) for routine inspection. He discovered four small albino fish appearing translucent in the back corner of the box. These fish were later identified as Ozark blind cavefish. The discovery of a population of cavefish was exciting because the hatchery's spring is only one of 25 active sites

the cavefish now calls its home. The discovery is doubly exciting since the hatchery has used the spring since 1888 and no previous history of the cavefish in the water supply has been documented. Today, the Ozark cavefish is only known to live in Missouri, Arkansas and Oklahoma.

This blind Ozark cavefish (Amblyopsis rosae), spends its entire life in a permanently dark

environment. It is totally reliant on Ozark groundwater and microscopic organisms on which it feeds. Due to its highly specialized adaptations and the sensitive environment on which it depends, the species was listed as threatened under the Endangered Species Act, December 3, 1984.

his tiny fish has very specific habitat needs. Probably the biggest threat to its survival is water pollution of its underground home. Carelessly used or discarded pesticides, motor oil, toxic metals, sediments and organic wastes all filter into the groundwater. Destruction of its habitat, such as by sealing cave entrances, flooding, loss of water or commercial development also threaten this fish. In addition, collection or disturbance by careless cave visitors can harm the population.

The region around the hatchery is called "karst" landscape. The porous limestone and dolomite bedrock is honeycombed

with underground streams, caves and caverns. Openings form when water and debris slowly dissolve limestone and erode rocks.

in 1991, funds were made available to the hatchery from the U.S. Fish and Wildlife Service's Watchable Wildlife Program. This program enables sites to be developed on Federal land to view wildlife in their natural environment. Regional planners selected the Hearrell Spring Site to inform the public of the Ozark cavefish, teaching the importance of maintaining clean groundwater. A Floridabased company specializing in fish and wildlife interpretation and education, was contracted to develop the display at

> Neosho. Their charge was to install a camera in the spring box to monitor the cavefish population and to develop a portable display that could be used at off-site presentations. The camera system, monitor informational video were dedicated, Dec. 21, 1993.

> The camera is located about two feet above the water surface, focusing over the pool of water that

is part of the habitat for the Ozark cavefish. The area is about two-and-one-half feet in diameter, and the pool of water extends back underground. When viewing through the monitor, the public can see the Ozark cavefish swimming around in the pool of water about 85 percent of the time. When we receive a significant amount of rainfall, the fish has a tendency to go down deep where they cannot be seen. When runoff from the rain subsides; however, the fish gradually resurface and appear on camera.

The cavefish display and video are located at the Neosho National Fish hatchery, and closed caption videos are available for the hearing impaired. The visitor's center can accommodate 15 people at a time and is wheelchair accessible. The hatchery is open to the public Monday through Saturday, 8 a.m. to 4 p.m., and tours are provided by appointment.



The threatened Ozark cavefish.

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Lake Superior's forgotten fishery: The coaster brook trout



Keweenaw Bay Tribal Fishery Technician Evelyn Smith releases a coaster brook trout after collecting biological information and a blood sample.

By Lee Newman Biological Science Technician Ashland FRO, Wisconsin

Lake Superior once held bountiful and apparently inexhaustible fisheries. The deep, cold waters of the lake abounded with lake trout, whitefish, and herring, while the warmer waters of protected bays held walleye, northern pike, smallmouth bass and yellow perch.

Explorers also found another spectacular fishery for the giant brook trout of Lake Superior. The rocky shorelines of the lake and its cold water tributaries were the domain of vast numbers of 2- to 10-pound brook trout that were dubbed "coasters" because of their affinity for the coastline habitat.

Brilliantly colored, easy to catch, and of unsurpassed quality for eating, the coaster brook trout quickly earned Lake Superior a worldwide reputation as the ultimate place to angle for big brook trout. By the mid-1800s affluent anglers, many of them from Europe, were journeying to Lake Superior to sample the fishery. Streams that provided spawning habitat for large runs of fish were the primary target for anglers. Larger rivers (such as the Nipigon in Ontario and the Brule in Wisconsin) became the mecca for brook trout aficionados. The Brule saw four U.S. Presidents fishing in her waters, and the area was home to Calvin Coolidge's "Summer White House" in 1928.

As more fishermen came, trouble signs began to appear. In the 1880s and 1890s, newspapers started commenting on the "wanton destruction" of the fishery. Various accounts described fishermen catching "boatloads of 3- to 4-pound coasters" and began to express concern for the future of the fishery. No protective action was taken. By the 1900s, it was over and coaster brook

Continued on next page



Coaster -- from previous page

trout populations collapsed on a lakewide basis. Except for a few small and isolated populations, the strain was virtually extirpated (almost made extinct) from the Lake Superior watershed.

With the current trend among scientists and the public to place more emphasis on the protection and restoration of indigenous species, fisheries managers for Lake Superior have begun to think very seriously about the future of the coaster brook trout.

At a 1992 interagency conference on coaster brook trout, Lake Superior fisheries managers agreed on a number of points:

- * Coaster brook trout are a genetically unique stock that is specifically adapted to Lake Superior.
- * Current populations are at critically low levels. (The few remnant populations, mainly in the Nipigon River and around Isle Royale, number only in the hundreds).
- * The coaster brook trout fishery was a valuable resource, and the fish likely played a vital role in the fish community of Lake Superior.
- * Immediate action should be taken to protect the remnant stocks of coasters. Biological studies should be initiated and ways of restoring populations in Lake Superior should be explored.

The Lake Superior Committee, a joint U.S.-Canadian agency recommends fisheries management policy for all of Lake Superior, created a subcommittee specifically charged to work with brook trout. subcommittee is now in place and provides historical and scientific data on coasters to all management agencies on Lake Superior. The subcommittee is now preparing a status report on coaster brook trout. The subcommittee is also expected to produce a statement of objectives for restoration of coasters within two years and a lakewide

A coaster brook trout taken from Lake Superior's Isle Royale.

rehabilitation plan for the species in three years.

n the interim, the committee will help Federal, State, tribal and provincial authorities coordinate their ongoing restoration efforts, provide information to the agencies and the public, and help to secure funding for needed research and management projects for coasters.

The process of restoring this great game fish to Lake Superior has begun. Fisheries managers know the progress could be slow and difficult, but believe that this restoration is a worthy goal.

Editor's note: The coaster brook trout is not currently protected under the Endangered Species Act. It has not been proposed for Federal listing, nor is it included on the list of candidate species for listing. There is movement toward formally petitioning to Federally list the coaster, however, whether or not protection under the Act is warranted has yet to be debated.



U.S. Fish and Wildlife Service biologist Jeff Slade extracts blood from an anesthetized Isle Royale coaster brook trout for DNA analysis. He is assisted by Tom Jones of the Minnesota Department of Natural Resources.

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S.O.S.! (saving our shorebird!)

By Kelly Millenbah, Fish and Wildlife Biologist East Lansing Field Office, Michigan

The Michigan shores of the Great Lakes contain plant and animal communities that are unique and distinct from all others in the world. The presence of dwarf lake iris, Houghton's goldenrod, and pitcher's thistle make the shores an observation haven for die-hard botanists. While the brilliant purple, yellow, and silver of these Federally threatened plants provide a splash of color against the sandy beaches, it is the "pipe" of a tiny shorebird that has caught the ear of birders, researchers, and agencies alike. The call belongs to the endangered piping plover.

Once common on all Great Lakes beaches, Great Lakes piping plovers currently nest only in northern Michigan on the beaches of Lakes Superior and Michigan. Market hunting in the late-1880s for sport, food, and feathers resulted in a dramatic decline of these birds early on. Historically, 150 - 200 breeding pairs probably existed in Michigan alone with over 800 pairs nesting throughout the Great Lakes. Over the last 15 years, however, no more than 20 pairs have nested in the Great Lakes area.

The plovers could not have picked a more conflicting lifestyle with humans. They require quiet, open lakeshore beaches from Memorial Day to Labor Day. Unfortunately, humans also require the same beaches at the same time of the year for boating, sunning, and barbecuing. Habitat destruction, commercial and residential development, and direct human disturbance of nesting pairs, eggs, and chicks are believed to be the primary causes of the species decline today.

The East Lansing Field Office has identified the Great Lakes piping plover as a priority for recovery action in the State of Michigan. Public outreach and education efforts aimed at the plight of the plover have come to the forefront in recovery activities for the species. Efforts include development of closed area and interpretive signs, brochures, and lesson plans.

ttractive red, white, and black plastic signs with the words, "CLOSED AREA. PIPING PLOVER NESTING AREA. DO NOT PROCEED BEYOND THIS POINT," adorn fencing used to keep humans a comfortable distance from nesting plover pairs and to alert them of the presence of an endangered species. Researchers involved in monitoring and protection efforts of Great Lakes plovers contribute the necessary person-power required for placement of the signs. All signs provide Federal and State telephone numbers for reporting disturbances of the bird or its habitat.

Interpretive signs will be placed at seven plover nesting sites throughout northern Michigan in the future. Signs were developed to target beach users and inform them of the importance of sharing the shore with the plover. Each sign includes a brief description of the bird, locations, reasons for

decline, and simple things people can do to help avoid further decline of the species. Each sign also identifies the three threatened plant species found on the Great Lakes shoreline.

Brochures detailing plover description, distribution, breeding and feeding habits, threats, and ways to protect the species were developed as a quick and effective method of reaching thousands of people. Although a supply of brochures is available at the Field Office, copies have been distributed to national parks, bird observatories, and the Michigan Department of Natural Resources. Researchers in the field carry a supply for interested vacationers, beach users, and birders. Copies of the brochure were also included in a package promoting a landowner contact program headed by the DNR and The Nature Conservancy.

reat Lakes Piping Plover Lesson Plans, to be used with grade school children, were adapted from the Atlantic Coast Piping Plover Lesson Plans. The lesson plans were designed to educate students about the piping plover, specifically with regard to habitat needs, behavior and general characteristics, response to human activity, threats to the species, and ways to protect the species. Included with the plans are a slide presentation, a plover survival simulation game, and nest construction and area management activities. Ninety-six fourth grade teachers in northern Michigan received copies of the plans. High praise has been received for the plans, both from the educators and the target students.

Communication and cooperation among researchers, agencies, and beach users will ultimately decide the future of the piping plover in the Great Lakes area. Continued education and outreach can be used as a valuable link for promoting the protection of the species within and among all concerned individuals.



Signs and fencing warn people away from piping plover nesting sites.



Volunteers from The Nature Conservancy's Volunteer Steward Network conduct training on hand pollinating the threatened eastern prairie fringed orchid.

A blanket of white fringed orchids

By Amelia Orton-Palmer Chicago, Illinois Field Office Ecological Services

Sweat is beginning to trickle down her forehead. Mosquitoes are whining in her ears. Her legs are cramping from remaining in a squatted position for too long, but she hasn't noticed a bit of it. All of her attention is focused on gingerly extracting pollinia with a toothpick from an eastern prairie fringed orchid (Platanthera leucophaea). She is one of about 35 members of The Nature Conservancy Volunteer Steward Network in the Chicago area working on a project to enhance populations of the Federally threatened orchid.

Field observations indicated that pollination of orchids by natural pollinators (members of the hawkmoth family, Sphingidae) was not happening at most sites in northeastern Illinois. The U.S. Fish and Wildlife Service decided to put to use a hand-pollination and seed dispersal technique, developed by Steve Packard of The Nature

Conservancy, that resulted in flowering plants in 1984. In 1993, the Chicago, Illinois, Field Office awarded a grant to The Nature Conservancy for a five-year project to use those techniques to boost seed production, augment populations at current sites, and restore populations at historic sites in northeastern Illinois and southern Wisconsin. This project is intended to fulfill priority recovery tasks outlined in the draft Recovery Plan.

he project strategy originally was designed to execute handpollination and seed dispersal in the first year, and in the following four years sites would be monitored for habitat management needs and any signs of new plants. Two circumstances contributed to a modification of plans to repeat hand-pollination a second year. The first year turned out to be very successful in terms of volunteer effort and number of seed capsules produced. It was also a year of record precipitation. Since data has shown that increased flowering occurs the year following high rainfall, we expected another banner flowering season in 1994. The Chicago Field Office and Nature Conservancy decided to take advantage of the high level of volunteer participation and a good flowering season to carry out a second year of hand-pollination and seed dispersal.

In 1993, volunteers collected 405 capsules, each containing thousands of dust-like seeds that were dispersed at 14 sites in northeastern Illinois and one site in Wisconsin. Dispersal sites were matched to collection sites according to natural divisions outlined in the draft Recovery Plan. Natural divisions are based on plant communities and physiographic regions. Only half the capsules were collected from each site, while the remaining half were left for natural dispersal. At this writing, capsules for the 1994 season are yet to be collected.

Patience is required not only for the delicate hand-pollination work, but also for rewarding results. It is believed to take three-to-five years for a flowering

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The threatened eastern prairie fringed orchid.



Orchid -- continued from previous page

plant to appear. Until that time, volunteers will continue to monitor populations and help manage orchid habitat where needed. Volunteers have already been busy clearing brush, controlling non-native exotic plants, and installing wire cages to protect orchids from deer.

Recovery and restoration efforts associated with this project came out of a partnership between the Chicago Field Office and Nature Conservancy, as well as several other natural resource agencies. The Service granted Section 6 funds to the Illinois Department of Conservation for a three-year project for habitat management of priority populations of the orchid in northeastern Illinois. Forest Preserve Districts of Cook, DuPage, Kane, Lake, and McHenry Counties all implemented habitat management activities at project sites, including exotic plant control and prescribed burns.

The Chicago metropolitan region, with its rapidly expanding population and intensive development, has imposed heavy impacts on its remaining natural areas. But members of the community are giving something in return. The high level of volunteer dedication and enthusiasm has greatly multiplied what could have been accomplished from available Federal funding. Their reward may be what Chicago teacher and botanist Herman Pepoon observed in 1927, eastern prairie fringed orchids creating a "blanket of white on the moist low prairie."

John Rogner hand-pollinates an eastern prairie fringed orchid.



Mysteries of endangered species add intrigue to a complex fishery world

By John R. Leonard Deputy Fisheries Associate Manager

Fish are an excellent biological indicator of the health and well being of the aquatic environment and its inhabitants. Our fisheries program includes activities to support Federal trust responsibilities in eight states and involves management, surveys, production, and health and quality of fish; and sea lamprey control. Activities are conducted in partnership with States, tribes and other cooperators. Authorities, acts, and legislative guidance provide direction and focus to fishery activities under our Federal trust responsibilities. Activities on Service lands and lands managed by tribes and other Federal agencies and those involving candidate, threatened and endangered species receive priority.

Working with the most mysterious of the living natural resources adds intrigue to an already complex fishery world. Our challenge is to identify the most important needs of any fish or population of fish and to conduct the proper actions to meet those needs. The needs vary from species to species and population to population. Our focus is primarily on popular game or sport species for lands under Federal jurisdiction; however, those fish recognized as threatened or endangered have the greatest needs since they are considered to have their very existence threatened with extinction. The ever changing environmental conditions and actions, such as overfishing, constantly force populations of fish and other aquatic organisms to respond. The ability of fishery professionals to use gear and instruments to monitor and quantify these changes is critical. Also critical is our ability to influence populations by producing fish at hatcheries, removing fish by using chemicals and physical means, and creating or altering habitat.

The use of science and scientific methods enable us to determine the current trends of species of fish and their populations. Recent work on the coaster brook trout is an example. Our biologists perform field surveys, collect data and contribute to the information that is needed to evaluate the status of the fish. Investigative activities are an essential part of the fact gathering required to identify the trend of a species population and whether or not a species is a candidate for listing as threatened or endangered. Functioning in a partnership mode with State, tribal, university and other cooperators expedites the collation of critical information.

Restoration of Lake trout in the Great Lakes has been supported by a Federal fish production program that

Continued on next page

Do endangered species change management philosophy on our national wildlife refuges?

By Bud Oliveira Refuge Manager Necedah NWR, Wisconsin

The listing of the Karner blue butterfly as an endangered species in December 1992 posed an interesting dilemma for the staff of the Necedah National Wildlife Refuge, Wisconsin. Necedah was established in 1939 as a "refuge and breeding ground for migratory birds and other wildlife." However, Section 7 (a) of the Endangered Species Act states that "All other Federal agencies shall . . . utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to Section 4 of this Act."

The refuge staff held numerous discussions on the conservation of the butterfly. Biologist Richard King established an ambitious monitoring plan which would in time answer many of the questions needed to successfully restore butterfly populations on refuge lands. In the meantime our management activities needed review to determine their effects, if any, on the Karners.

Literature reviews and discussions with lepidopterists gave us our first insight into the basic requirements of the Karner. Wild lupine was critical as it is the sole food source for the larvae. Other nectaring plants were important



Career Awareness Institute Education Program Student Lisa Adamo points out a Karner blue at Necedah NWR.

as well for the adult butterflies. The lupine is disturbance dependent, and therefore requires periodic fire or mechanical disturbance to maintain an early successional stage. But why were the butterflies present on certain areas of the refuge and not on others? The answer, we believe, lies in the soils.

Excessively drained Friendship and Plainfield soils are where Karners are found on the refuge. These soils are believed to be the sites where oak barrens existed during the pre-settlement period of Wisconsin. Oak barrens once occupied nearly 11 million acres of Wisconsin. Today only 50,000 acres remain.

A proactive, ecosystem approach has been taken in our Karner management. The refuge's forest management plan has been revised to provide for the restoration of approximately 9,000 acres of oak barrens through timber harvest and prescribed fire. Existing barrens have been subdivided and are managed through prescribed burning and mowing. Oak sprouts are no longer treated with chemicals to allow for a shrub component in the barrens.

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Fisheries -- from previous page

began in the early 1960s. The crash of Lake trout populations in the Great Lakes resulted from the invasion of the parasitic sea lamprey, overfishing and habitat degradation. It is conceivable that, without the intervention of the Federal Government and the cooperative management of representatives on the Great Lakes committees, the lake trout would now be listed as threatened or endangered.

The fish hatchery facilities associated with our fish production efforts offer an excellent opportunity for education and outreach. For example, our National Fish Hatchery at Neosho, Missouri, features the only location in the United States where visitors can view the threatened Ozark

cavefish. A closed circuit television linked to a cave camera projects the cavefish for visitors in the hatchery interpretive area. The public is welcome at National Fish Hatcheries and tours are available.

of these examples demonstrates a discipline or activity that advances our knowledge of fish and fisheries. It is important that we content not be with accomplishments but strive to be opportunistic in meeting the challenges of the future. Often the crystal ball is turbid. However; if we speculate on what might be, a seemingly endless list of possibilities materializes. This includes the need to:

* Study and evaluate aquatic species that are decreasing rapidly

- * Complement the needs of the species with proper habitat conditions or facility design
- * Provide policy and guidance to minimize the adverse impact of activities on species survival and
- * Develop the ability to react to crisis situations with swift and meaningful action

The quest is to develop a dynamic system of people, places, things and guidance that can deliver what we need to meet the future demands of our living aquatic natural resources. The question is can it be done and still satisfy the traditional needs of the public. If the focus is on the environment, habitat and cooperative partnerships - we believe it can!

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CGS gets involved through grants, agreements and more

By John Mullins Chief, Contracting and General Services

What does Contracting and General Services have to do with the preservation of endangered species? How do people who buy computers and medical services, construction work and research efforts; and who manage space, personal property and telecommunications get involved in the preservation of endangered species? Through the Federal Grants and Cooperative Agreements Act and Federal Property and Administrative Services Act, we take advantage of several different approaches to obtain information and fund research efforts, with the ultimate goal to recover and protect populations of endangered species in the Great Lakes-Big Rivers Region.

Let's examine the Federal Grants and Cooperative Agreements Act and look at the methods we use to work with a variety of interested partners. These partners include Departments of Natural Resources and Conservation, various nonprofit organizations—such as The Nature Conservancy, Freshwater Institute and Ducks Unlimited, local soil and water conservation districts and colleges and universities, to study, protect and recover populations of endangered and threatened species. We work with these partners through two types of assistance agreements: cooperative agreements (cooperation of two or more parties to achieve a specific goal) and grants (directly providing funds for efforts related to specific species). By combining resources with two or more Federal, State and nonprofit organizations to accomplish goals related to endangered species, we gain maximum benefit from our scarce resources.

e have assistance agreements in place to track bald eagles, study the eastern timber wolf, identify and count piping plovers, acquire knowledge about the Ozark cavefish, work with whooping crane, Kirtland's warbler and Karner blue butterfly recovery teams; and to study the range of the black tern, copperbelly water snake and western prairie fringed orchid, plus many other activities.

e have what is called a "master agreement" in place with each of the Region 3 states that addresses land protection, surveys, censuses of species, habitat restoration, research and life cycle studies. This agreement expires on December 30, 2000. Under our

master agreement with the Wisconsin Department of Natural Resources we have issued 25 amendments. For example, in 1992 we worked with the State to locate and preserve the wintering habitat, roost and feeding areas of bald eagles along the Mississippi River and rivers in Wisconsin. Similarly, in 1993 we cooperated with the DNR on a statewide survey of the productivity of bald eagle nests within Wisconsin. The report identified the total and relative success of bald eagle nests within the state. This enabled biologists to identify areas of concern where productivity and

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Management -- from previous page

How has this shift in activity affected migratory birds? The areas currently managed were originally established as nesting habitat for waterfowl. Nesting studies in the barrens were begun in 1994 and the preliminary results are encouraging. Because of their diversity, barrens support species of birds which are associated with prairies, shrubs and forests. Waterfowl utilize the barrens for nesting, in particular mallard and blue winged teal.

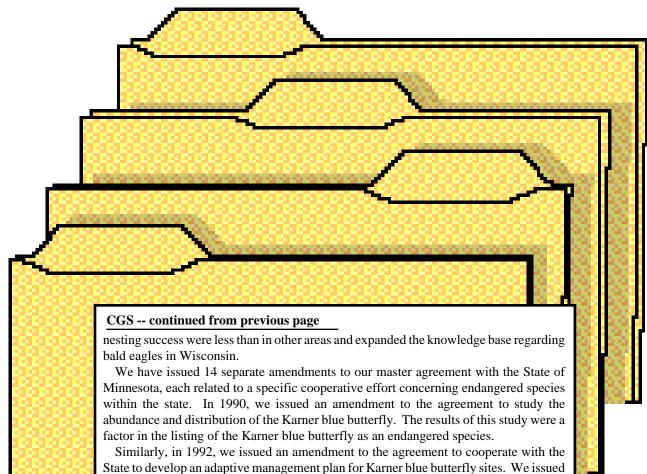
Would we have managed for the oak barrens if the Karner had not been listed? I can't answer that. I do know, however, that our current management will not only benefit the Karner, but also produce positive results for migratory birds.

Other refuges in the Region have developed management schemes to address their particular endangered resource issues. Agassiz National Wildlife Refuge uses prescribed burns to maintain young aspen which is utilized by white tailed deer. The deer is the main food source of the timber wolf. The Brussels District of the Mark Twain Refuge has removed some areas from goose browse production to provide the necessary habitat for the

decurrent false aster. Research is currently ongoing to determine the best management for this disturbancedependent species.

Some refuges were established specifically for endangered species. The Driftless Area National Wildlife Refuge, a satellite of the McGregor District of the Upper Mississippi was established for the protection of the Iowa Pleistocene snail and the northern monkshood. To protect these species, the refuge staff are actively involved in land acquisition. Pesticide use has been eliminated, refuge units have been fenced to remove grazing from the area, and debris, which includes items such as refrigerators, tires and household trash, has been removed from sink holes to improve habitat conditions.

As Federal land managers, our obligations to endangered species are clearly defined under the Endangered Species Act. As additional species are listed, more Region 3 refuge managers will find themselves balancing the needs of endangered species with the purpose(s) for their refuge. With good biological information, proper planning, and Regional support, we can achieve this balance.



State to develop an adaptive management plan for Karner blue butterfly sites. We issued another amendment in 1993 to determine the distribution and abundance of the Karner blue on the Whitewater Wildlife Management Area and provide a report to quantify habitat characteristics critical to the restoration and recovery of that species.

In 1992, we signed a Grant Agreement with Michigan's Adrian College to fund the

In 1992, we signed a Grant Agreement with Michigan's Adrian College to fund the study of the copperbelly water snake by using implanted transmitters and statistical analysis to discover habitat requirements, identify home range, movement patterns, seasonal changes in patterns, and a host of other characteristics of the species. This expanded base of knowledge will help our biologists develop effective programs to recover the species.

Another example of CGS' involvement is our Grant Agreement with the International Wolf Center to work together to further the conservation and recovery of the eastern timber wolf. This includes studying the species and disseminating information on its biology, ecology, abundance, distribution and habitat within the Great Lakes-Big Rivers Region.

These examples are typical of our involvement in Regional efforts related to endangered species using Assistance Agreements as the tool of choice to accomplish our goals. We have 150 similar agreements outstanding -- totaling \$1,571,693.

In addition to our endangered species work using Assistance Agreements, our small purchasing staff spends approximately \$150,000 annually for discrete studies of such species as western prairie fringed orchid, Hine's emerald dragonfly, Lake Erie water snake and piping plover. These studies range from population surveys to full blown recovery plans.

What does Contracting and General Services have to do with endangered species? Quite a lot, really, by using Assistance Agreements and purchase orders to work with our partners and share resources for the benefit of endangered species throughout the Region.

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Sports dollars benefit endangered species

"(In Region 3). . . a

easements."

combined total of \$247.4

Robertson and Dingell-

million from both Pittman-

Johnson have been spent

to acquire 3,475,000 acres

as Service-owned lands or

By Daniel S. Licht Federal Aid

Since its birth in 1937, the Pittman-Robertson program (also known as the Federal Aid in Wildlife Restoration Program) has pumped more than \$3 billion into wildlife restoration nationwide. Likewise, the similar but more recent Dingell-Johnson program, and the subsequent Wallop-Breaux amendment, has pumped more than \$1 billion into fish restoration in the United States since 1950.

oth of these programs have been targeted toward game species such as deer and walleye. However, the emphasis on game species may be justly deserved since funding for the programs comes from excise taxes on hunting and fishing equipment like guns, ammunition, archery equipment, fishing equipment and motorboat fuels.

Yet the programs have directly and indirectly benefitted a wide variety of wildlife, including many endangered, threatened and rare species.

The most significant benefits of Pittman-Robertson and Dingell-Johnson programs to rare species usually occurs through habitat acquisition. Since the inception of the Pittman-Robertson program, about 5 million acres of wildlife habitat has been acquired nationally. The Dingell-Johnson program has acquired or created

another 250,000 acres of lakes and other aquatic habitats. In the U.S. Fish and Wildlife Service's Region 3, a combined total of \$247.4 million, from both Pittman-Robertson and Dingell-Johnson, have been spent to acquire 3,475,000 acres as Service-owned lands or easements.

Examples of how Pittman-Robertson- and Dingell-Johnsonacquired habitats have benefitted rare species are as numerous and varied as the species themselves. In Wisconsin, the Department of Natural Resources acquired a wildlife area for public recreation and other uses. Incidental to that effort, it was discovered that the site hosts the ornate box turtle, a State-listed species.

In Indiana, a flock of 18,000 sandhill cranes stop at the Jasper-Pulaski Fish and Wildlife Area during their migration. In addition to being acquired with Pittman-Robertson and Dingell-Johnson dollars, the money is also used to manage the habitat for waterfowl, habitat which also benefits the cranes. More than 38,000 bird watchers enjoyed the Statelisted cranes in 1993 alone.

Next door in Illinois, Pittman-Robertson dollars have been used to acquire numerous Conservation Areas that also benefit rare species. The State-listed rice rat is found at the

Union County Conservation Area while the common moorhen is believed to be a migrant at the site. Several other valuable wildlife sites have been acquired along the Mississippi River. These Conservation Areas benefit numerous shorebirds and wading birds such as great blue herons, great egrets, greenbacked herons and others.

In Ohio, a state with limited public lands, Pittman-Robertson dollars have been used to acquire and manage valuable wetland habitats. Pittman-Robertson dollars used to protect marshes along Lake Erie have benefitted the bald eagle. Thanks in part to Pittman-Robertson funded activities, the number of nesting eagle pairs in Ohio has climbed from four in 1976 to 26 in 1994. Also in Ohio, the acquisition and management of the LaSuAn Wildlife Area has contributed to the protection of the copperbelly water snake, which has been proposed for Federal listing. The Pittman-Robertson acquired

Killdeer Plains Wildlife Area will soon be the site of one of Ohio's most exhaustive biodiversity studies. On the aquatic side, the use of Dingell-Johnson dollars for stream erosion control has benefitted a number of species, especially mussels. The improved water quality that results from the erosion control efforts benefits people as well as wildlife.

Although Minnesota already has a much greater proportion of public lands than Ohio and some other Midwestern States, Pittman-Robertson funded land acquisition

still benefits many endangered and threatened species. Acquisition in the northern part of the state has provided additional protected nesting sites for bald eagles. Pittman-Robertson acquired lands also provide travel corridors for gray wolves moving from one large block of habitat to another.

While habitat acquisition is probably the most significant way in which Pittman-Robertson and Dingell-Johnson dollars benefit endangered, threatened and rare species, it is not the only way. The Pittman-Robertson Act only requires that projects benefit "wild birds and wild mammals", making no distinction between whether the species is a game species or not (in contrast, the Dingell-Johnson Act is limited to "sport fish"). Hence, Pittman-Robertson dollars have been used for many non-game species.

he Wisconsin DNR has used about \$250,000 over a 5-year period for monitoring and managing Wisconsin's Federally endangered gray wolf population. The State has also used Pittman-Robertson dollars for monitoring the status of the threatened bald eagles in the State. Likewise, the State spent another \$500,000 for

Continued on next page

Job programs

Students gain experience, work with endangered species

By Larry Dean Public Affairs

When it comes to working with endangered and threatened species, or species that are candidates for listing, college students participating in student employment programs can play an important part in U.S. Fish and Wildlife Service efforts while earning extra money and college credits.

That's exactly what three students hosted this year by Necedah National Wildlife Refuge, Wisconsin, experienced while working with the refuge as part of the Cooperative Education (Coop), Career Awareness Institute and Federal Junior Fellowship Programs. Their work included population surveys of endangered Karner blue butterflies and monitoring of the candidate massasauga rattlesnake. Additionally, they received hands-on learning in the wide range of duties performed by Service biologists and refuge operations specialists.

University of Wisconsin-Stevens Point students Jillene Summers and Joyelle Wilber, and Tennessee Technological University student Lisa Adamo all believe their work at the Refuge provided an invaluable learning experience and opened their eyes to determining whether a natural resources career would become the overall goal in their degree programs.

Adamo, a Career Awareness Institute Education Program student, said, "The program is very well-rounded to give us a taste of many different aspects of working with the Fish and Wildlife Service. I think others would find this as great a learning experience as I have."

Summers, a Cooperative Education Program student, added, "You can learn a lot about what areas you like or dislike in a natural resources career and make

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Federal Junior Fellowship Program Student Joyell Wilber counts Karner blue butterflies for population surveys of this endangered species on Necedah NWR.

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survey and habitat work for a wide variety of State-listed non-game species, some of which were also Federally listed.

Surveys for game species can also provide information on non-game species. In Illinois, Pittman-Robertson-funded registration stations for harvested deer and turkeys have yielded information on the State-listed bobcat. Hunters are asked if they saw bobcats while hunting deer and turkeys. To date, the information on bobcat sightings has agreed closely with information in the Natural Heritage Database used to track rare species.

Although Dingell-Johnson dollars must be targeted toward "sport fish",

that does not preclude incidental benefits to non-sport fish. Wisconsin used Dingell-Johnson dollars to study the distribution of sport fish in the State. While conducting the surveys, researchers also made numerous records of other fish species observed, including some State-listed species. In some cases State-listed species were found at sites where they were never recorded before.

The Pittman-Robertson and Dingell-Johnson programs have been unqualified successes for game species. The programs have also produced numerous and substantial benefits for endangered, threatened and other rare species. These benefits translate into a better human environment for all.

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While working at Necedah NWR, the students were given the opportunity to track the massasauga rattlesnake, a candidate species. Above is one of the snakes they were tracking.

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some contacts for once you've completed your degree and are looking for a job. The variety of work we were given at Necedah helped to narrow down my interests in deciding on a major."

Wilber, a Federal Junior Fellowship Program student, said she heard about the program with the Service while she was a senior in high school participating in the Service's Pathways Program. "The Federal Junior Fellowship Program really helped me find what areas I'm most interested in, as well as what I am definitely not interested in. It's also given me the chance to earn credits and some money for school while learning about this career field by working in it."

Office for Human Resources Assistant Regional Director Barbara Milne explained that student programs such as these are beneficial to all involved. "Traditionally, many students of color have not considered professions in natural resource career fields, but through these programs, we can encourage diverse groups to consider careers with the Service by letting them work and learn from our biologists."

She added that it is a bonus that these students also had the opportunity to

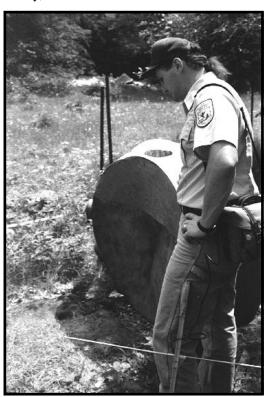
work with monitoring one of this nation's endangered species and one candidate species found at Necedah National Wildlife Refuge. "Obviously,

not all field offices hosting students for work programs have endangered or candidate species. But these three students were fortunate enough to get a chance to work on projects dealing with the Karner blue butterfly and massasauga rattlesnake. It's an exciting work experience for students!"

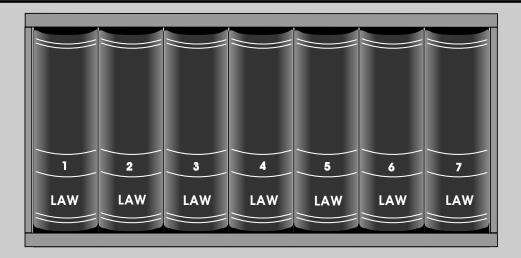
The Necedah Refuge staff has participated in the University of Wisconsin-Stevens Point Pathways program since it started in the summer of 1991. Due to its close proximity to the campus, the staff have built a close working relationship university staff, especially Cultural Diversity Coordinator Sue Corn. Through their successful partnership efforts, one-third of this summer's staff at the refuge was Native American.

Bud Oliveira, Necedah Refuge Manager, pointed out that working closely with the students has brought some challenges and many rewards to the refuge. "The challenges have been mainly in helping the students find housing and transportation for the summer. The rewards have been seeing Jillene, Joyelle and Lisa increase their interest in wildlife conservation and natural resource careers. It was also rewarding to see them overcome some of their concerns in experiencing new things such as tracking massasauga rattlesnakes and banding waterfowl, not to mention the benefits in learning new concepts being taught at Stevens Point or information about Native American culture," he said.

Necedah is just one of the field stations participating in student employment programs. This summer, the Region hosted 13 Cooperative Education Program, five Federal Junior Fellowship Program and two Career Awareness Institute Program students. The Region also participated in seven other minority youth outreach partnership programs.



Necedah NWR Biologist Richard King uncovers a massasauga rattlesnake he tracked by radio transmissions from the snake's implant.



Legal involvement in the ESA

By Marcia Kimball Office of the Field Solicitor

Whether they slither, crawl, flutter or stay firmly rooted, the species proposed by Region 3 of the U.S. Fish and Wildlife Service for listing as threatened or endangered, or at least the legal issues raised by their listing, have crossed the desks of the attorneys within the Office of the Field Solicitor. As legal counsel for the Secretary of the Interior, the Solicitor's office provides legal services to the agencies within the Department. Region 3 receives its first-line legal advice from the Office of the Field Solicitor (OFS) collocated with the Regional Office.

The OFS becomes involved in endangered species issues at the beginning of the process, with the review of listing packages, and later in the process with enforcement of the provisions of the Act and review of cooperative agreements entered into by the Service for recovery activities. The legal implications of the Act have also become important issues in the cleanup of Superfund sites or in areas which have claims for natural resource damages under the Comprehensive Environmental Response Compensation and Liability Act or the Oil Pollution Act.

When the Service proposes a species for inclusion under the provisions of the Act, the initial proposal receives legal review prior to publication in the Federal Register. That review includes an examination for internal consistency, clarity in the definition of terms related to the species or its habitat, and fairness in the evaluation of the listing criteria. The past several years, the office has also provided attorneys to serve as hearing officers for public

hearings conducted to receive comments regarding the proposed listing. Examples include the Karner blue butterfly and copperbelly water snake.

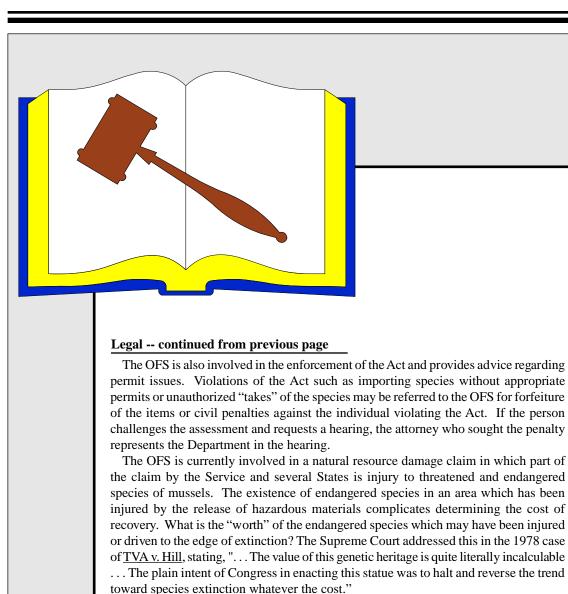
After the proposed listing is published, the proposal is reviewed again before final listing. In that review, the attorneys in the OFS review the listing proposal to determine if public comments and concerns had been considered and adequately addressed by the Service. Since 1988, the OFS has reviewed listings, reclassifications or withdrawals from listings of at least 14 species.

Once a species is listed, the attorneys may be involved again in the efforts of the Service to implement recovery activities. The office reviews grants and cooperative agreements for recovery activities. The office has also become involved in providing advice in those instances in which the act of listing a species has the potential for being called a "regulatory taking." Regulatory takings are charges by landowners that their right to use their property has been taken by the Federal government without compensation, in violation of the Fifth Amendment. In the case of the Service, the claim would be that the listing of a species as endangered or threatened takes away the right to use their land.

With the copperbelly water snake, the OFS is working with the Service to develop an ESA Section 4(d) rule allowing short-term, incidental taking of the snake by coal companies that agree to participate in conservation activities. The interim rule is an example of an attempt by the Service to work with coal companies to save the species and allow the companies to continue mining.

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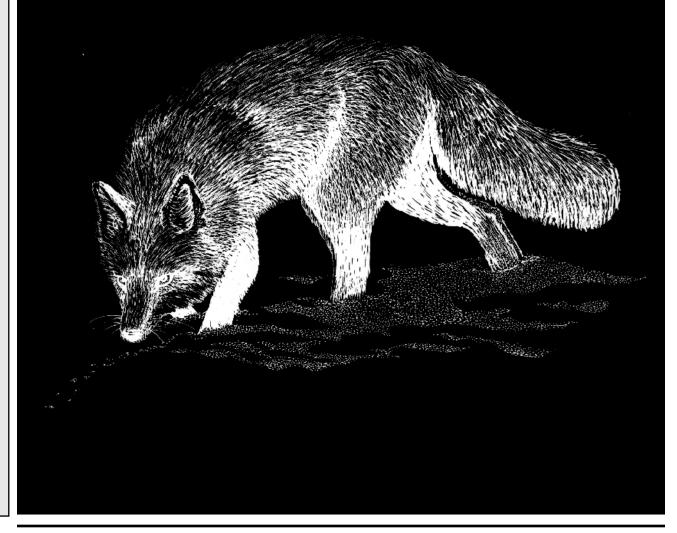
The OFS has also been involved in providing legal advice to the Service during the consultation process with other Federal agencies and in assisting the Department of Justice in litigation, defending regulations under the Act such as gray wolf regulations or defending biological assessments or opinions issued by the Service.

As general counsel for the Service, the OFS deals with endangered species issues in a broad variety of contexts and across the lines of various programs of the Service.



"When the last individual of a race of living things breathes no more, another heaven and another earth must pass before such a one can be again."

--William Beebe



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Endangered Species Resource Materials

How can you get the latest information on the status of the gray wolf? Or a beautiful wildflower poster? How about everything you wanted to know about Iowa Pleistocene snails? You can get this and more through Region 3's Division of Endangered Species.

Most materials focus on species of the eight-state Region (Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio and Wisconsin), but materials on well-known endangered species from across the country are often available.

Send requests for all outreach materials via telephone, fax or in writing to: U.S. Fish and Wildlife Service, Division of Endangered Species, BHW Federal Building, 1 Federal Drive, Fort Snelling, Minnesota 55111-4056, FAX (612) 725-3526. Please indicate how many of each item you would like and be sure to include your complete mailing address. Information is available for the following species:

Mammals Mussels

Bats (general information) Dwarf wedge mussel

Eastern timber wolf/gray wolf Freshwater mussels of the Upper Mississippi River

Grizzly bear Higgin's eye pearly mussel West Indian manatee Winged mapleleaf mussel

Birds Snails

Bald eagle Iowa Pleistocene snail

Brown pelican
California condor
Insects

Common tern American burying beetle
Dodo Hine's emerald dragonfly
Eskimo curlew Karner blue butterfly

Interior least tern
Ivory-billed woodpecker Plants

Kirtland's warbler Dwarf lake iris
Peregrine falcon Northern monkshood
Piping plover Houghton's goldenrod
Trumpeter swan Leedy's roseroot

Whooping crane Minnesota dwarf trout lily

Reptiles Pitcher's thistle
Reptiles Pondberry
American alligator Prairie bush clover
Lake Erie water snake Small whorled pogonia
Copperbelly water snake Western prairie fringed orchid

Other Information

Brochures -- "Endangered Species" (information about the Endangered Species Program), "Placing Animals and Plants on the List of Endangered and Threatened Species" and "Why Save Endangered Species?".

Lists -- "Endangered and Threatened Wildlife and Plants" (worldwide list of species), "Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rule" (animal candidate species list), "Endangered, Threatened, and Proposed Species of Region 3", "Candidate Species of Region 3" (list), "Extinct Wildlife" (list), "Federally Listed Animals and Plants" (lists broken down by state)" and "Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review" (plant candidate species).

Miscellaneous -- Endangered Species Act of 1973, Endangered Species fact sheet (information about the Endangered Species Program), recovery plans and other technical information for Region 3 species

Especially for Kids

"Tracks" (special issue focusing on coastal wetlands)

Posters

America's Pearly Mussels

Endangered Species of the Coastal Ecosystem Endangered Species: The Road to Recovery

Audiovisual materials

Write for your free catalog: Resource Center, Minnesota Valley National Wildlife Refuge, 3815 East 80th Street, Bloomington, Minnesota, 55425-1600, or call (612) 725-3145. Endangered Species audiovisual materials include a gray wolf education trunk, films, videos and more.

Education kits share the story of endangered species with all ages

Keith VanCleave Minnesota Valley NWR

One innovative method the Service uses to inform and educate groups and classrooms about endangered species issues has been through the use of educational kits. The kits provide instructors with essential materials, activities, and the necessary resources to develop more tailored activities. Educational kits are great for teachers because they have been thoroughly researched and developed by experts in the field, saving instructors valuable time. Another advantage is that they are designed so instructors don't need a Service employee to do the presenting.

The Regional Office Branch of Interpretation, Recreation, and Education, Division of Endangered Species, and Minnesota Valley NWR worked together to provide 40 Wetland Trunks, three Suitcases for Survival and two Wolf Boxes for use in the Region.

Feedback indicates that educational kits are worthwhile and in demand. The resource center at Minnesota Valley NWR schedules the kits for use by Twin Cities area environmental educators and has also circulated the kits to more than 125 classrooms throughout Region 3. Assistance and advice on kit development has also been provided to other Regions and agencies. The Branch of Interpretation, Recreation, and Education is developing a new kit for Service stations that will focus on the prairie ecosystem.

The Suitcase for Survival is an educational kit that increases awareness of illegal wildlife trade and importation, basic CITES laws (Convention on International Trade in Endangered Species), and endangered species. The suitcase contains artifacts confiscated from illegal wildlife trade and importation, which are stored at the National Forensics

Laboratory in Ashland, Oregon. The artifacts include a wide array of products made from endangered species such as sea turtle boots, coral jewelry, a crocodile skin handbag and ivory carvings. The suitcase functions as a ready-made program with a World Wildlife Federation slide show or can be adapted for other types of endangered species programs. Also included is background information about the CITES program and a notebook on various Endangered Species.

The Wolf Box is a multi-sensory kit that is based on a series of 12 learning stations, each containing materials for learning about the magnificent wolf. These materials include not only audio and video programs, but various tangible items such as pelts, fur samples, skulls, rubber "scat," scent boxes, and various games. This box can provide a classroom or group with an in-depth learning experience about the biology of the wolf and related concepts such as predator/prey relationships, comparative anatomy, animal and social behavior, habitats, and endangered species. The Wolf Box was developed by Karlyn Atkinson Berg, the Non-game Wildlife Program of the Minnesota Department of Natural Resources and the Minnesota Environmental Education Board. The Service's Division of Endangered Species provided funding for two of these boxes

The Wetlands Discovery Trunk, developed by the Branch of Interpretation, Recreation, Education, offers instructors a wide array of curricula ideas, activities, posters, videos, slides, games and guides on wetlands and wetland-related concepts. At Minnesota Valley NWR, we sometimes customize the trunk by adding our "eco-beaver" costume. Our Park Rangers often use the trunk during teacher workshops and for interpretive and off-site programming.

All three educational kits are available for loan to interested organizations by contacting the resource center at Minnesota Valley NWR, (612) 725-3145.

Snakes, snails and timberwolf tales

Exhibit scheduled for Fall completion

By Joan Guilfoyle DARD, Public Affairs

In an agency dedicated to the art of biological science, there is little doubt that the left-side of our collective brains are well exercised. Day in and day out, we calculate, estimate, evaluate, deliberate, contemplate, cogitate, collate and ruminate over the challenges of biodiversity, ecosystem management and 40-page, double-sided documents. Opportunities to exercise the right, or creative, sides of our brain pop up like air bubbles in a vast sea. You have to watch closely to catch one. Last year, vigilance paid off.

Endangered Species Information and Education Coordinator Kate Winsor and I (two closet members of the ACRBB - Association for the Conservation of Right Brain Biologists) became core members of a team to develop an exhibit on endangered species. And, in synchronicity rarely realized in the workaday world, this project begun so long ago dovetails nicely into a focus kicked off last May by Director Mollie Beattie: Endangered Species Outreach.

The project began in 1992 with a \$100,000 Service grant to the Bell Museum of Natural History at the University of Minnesota to develop and construct traveling exhibits on

Continued on next page

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Exhibit -- continued from previous page

endangered species and the ecosystems that support them within Region 3. A core team of writers, exhibit designers and graphic specialists began brainstorming and exploring methods of effective public communication and interpretation through interactive exhibitry. From "dead eggs" (eggs of extinct species) to the large-sized, moveable hourglass (when the sand runs out, it's too late!) to "Call 911" (the Endangered Species Act as the threatened and endangered species emergency call), lots of right brains were in motion.

A larger group of consultants from the Minnesota Department of Natural Resources, University of Minnesota, Audubon Society, private and county nature centers, as well as Refuges and Wildlife employees Tom Worthington, Jean Holler and John Schomaker met with the core team to provide feedback on panel ideas and offer their own thoughts and experience. A survey of Service field station project leaders in the Region brought valuable information regarding available square feet of exhibit space and selection of important messages and panel themes.

A Level One exhibit focuses on how species become endangered, what actions individuals can take to help endangered species, as well as information on the Endangered Species Act. Level Two deals with endangered species found in various habitats, such as prairies, rivers and forests, with future plans for Level Two exhibits to include unique, specialized habitats such as the driftless area. Separate modules on extinct species and an interactive, computerized data base on endangered plants and animals give the exhibit flexibility in layout and spatial arrangement.

The exhibit is designed to easily travel between refuges, ecological services and hatchery offices, as well as county and state fairs, festivals and special events, libraries and shopping malls. Field station managers could also choose to display one or more Level exhibits, depending on site needs and space availability. Project leaders may find the exhibit useful during public meetings and hearings on endangered species issues. One blank panel is planned for display of pertinent, specialized information on the current "hot" topic for this purpose.

The exhibit's lightweight wooden frame can be set up by two people, and will include detachable panels, banners and three-dimensional objects that encourage interaction by visitors. It is expected that shipping fees will be the only cost incurred by Service facilities in scheduling these exhibits. The Level One exhibit could be replicated for other regions. School curriculum materials and other support materials are planned for distribution with the exhibit.

A miniature prototype of Level One was shown at the August Directorate meeting in Ashland, Wisconsin, where it was met with great interest. A half-size mock-up was set up at the Minnesota State Fair during August and September, where team members conducted informal visitor surveys to test the effectiveness of the panels and gain valuable public feedback.

The projected completion date is fall 1995. The Bell Museum has sought other contributors to this project, including the Fish and Wildlife Foundation, the National Science Foundation, the James Ford Bell Foundation and the Environmental Protection Agency. Thus, the project will continue to grow and improve its capabilities. A grand opening will be held at the Bell Museum on the university campus, where the exhibits will premier prior to a travel schedule within the Region. More information will be forthcoming as development continues. As for Kate and I, we are already watching for the next bubble.

Endangered species information now available on the IRM Library Server

By Karen Behrens Information Resources Management

The Divisions of Information Resources Management and Endangered Species in Washington have teamed up to provide general endangered species information to U.S. Fish and Wildlife Service employees and the general public through electronic mail.

In July, the divisions placed several electronic information items on the Information Resources Management Library Server, including: The List of Threatened and Endangered Species (current as of June 30, 1994), The Plant Notice of Review (as published on September 30, 1993), The Endangered Species Act of 1973 (as amended through the 100th Congress), Species Maps that indicate listed species and proposed species by state and territory (current as of June 1, 1994), and Species Maps that indicate Category 1 and

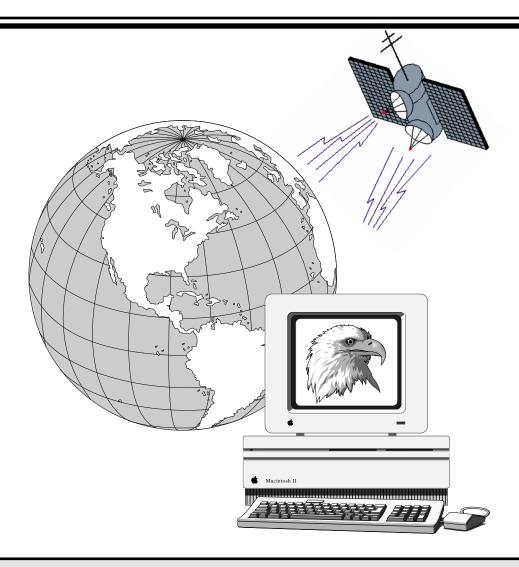
candidate species by state and territory (current as of December 31, 1993).

The goal of offering this information electronically is to assist the work of Service employees and other individuals and groups interested in endangered species.

Access to the IRM Library Server by Service employees is accomplished by using cc:Mail. To access the server:

- * Prepare a new message in cc:Mail
- * For the address line, select R9IRMLIB from the mail directory
 - * On the subject line, type Send ES Instructions
- * Send the message (Note that a written request in the message text area isn't needed since the server is an automated system of delivering information rather than one with a person transferring information. The only information required by the server is contained in the subject line)

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IRM -- from previous page

Those from outside of the Service with Internet E-mail capabilities should use the address R9IRMLIB@mail.fws.gov to access the server.

The server will respond by sending the complete list of information available on the Library Server for the Endangered Species Program, and the retrieval commands to use in your message's subject line to obtain those items.

This list may change over time as more information is added on the Library Server. For example, there are plans to add the new Animal Notice of Review once it has been published in the Federal Register.

Following are the retrieval commands for Endangered Species Information. These commands should be entered on the subject line of your cc:Mail message addressed to R9IRMLIB:

If you type SEND T&E LIST WP on the subject line, you will receive a copy of the endangered and threatened wildlife and plants, current as of June 30, 1994. This is a 750 kilobyte file in Word Perfect 5.1 format.

If you type SEND T&E LIST on the subject line, you will receive the endangered and threatened wildlife and plants information in four 150 kilobyte ASCII files.

If you type SEND SPECIES MAPS on the subject line, you will receive

four separate maps showing the number of category 1, candidate, proposed, and listed species by state/territory. These are four 589 kilobyte TIFF graphics files.

If you type SEND ESA on the subject line, you will receive a copy of the Endangered Species Act of 1973, as amended through the 100th Congress (1988). This is a 140 kilobyte ASCII file.

If you type SEND PNOR on the subject line, you will receive the Notice of Review for Plant Taxa for Listing as Endangered or Threatened Species, as published on September 30, 1993. This is a 211 kilobyte ASCII file.

For more information concerning the IRM Library or other computer services, call the Division of IRM staff at (612) 725-3516.

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Where you'll find them in Region 3

Editor's note: The following is a list of which field locations are home to one or more endangered or threatened species. Please note that, for safety reasons, not all locations are accessible to the public. To get the latest public viewing information, call the field office. The species listed in italic under each field office are either endangered, threatened or candidate species under the Endangered Species Act.

Illinois

Crab Orchard NWR

Carterville, Illinois (618) 997-3344

Bald eagle, running buffalo clover and Indiana bat

The refuge has two nesting pairs of eagles. As a participating member of the Kentucky, Tennessee and Illinois Eagle Management Team, the Crab Orchard staff conducts thorough eagle surveys several times each year. The highest number of eagles recorded making the refuge their winter home is 24 in 1994.

Cypress Creek NWR

Ullin, Illinois (618) 634-2231

Indiana bat, gray bat, interior least tern and bald eagle; and located nearby are the pink mucket pearly mussel, orange-footed pearly mussel, pallid sturgeon, Price's potato bean, decurrent false aster and pink mucket pearly mussel

The fact that Cypress Creek Refuge lies at the junction of four different ecoregions, one of only six such places in the nation, accounts for the tremendous potential for biodiversity through restoration and the impact on endangered species. The bald eagle is a common winter resident of the refuge, especially where large concentrations of waterfowl occur.

Illinois River NWR

Havana, Illinois (309) 535-2290

Decurrent false aster, Mead's milkweed, eastern prairie fringed orchid,

Higgin's eye pearly mussel, least tern and bald eagle

The bald eagle is a winter resident at the refuge. Populations fluctuate with waterfowl populations and ice conditions.

Mark Twain NWR Brussels District

Brussels, Illinois (618) 883-2524

Bald eagle, Indiana bat and decurrent false aster



The bald eagle

A very large population, often over 1,000, bald eagles can be observed during winter in the River Bend Area surrounding this refuge. The Alton Conventions and Visitors Bureau sponsors eagle watching tours on weekends in January and February. Decurrent false aster can be found on the Gilbert Lake Division. It was first thought that the duration of 1993 flooding had wiped out all of the plant's river populations. In actuality, floodwaters were beneficial. In 1994, numbers exploded to 240,000 plants, with 50,000 of these on the Gilbert Lake site.

Upper Mississippi River NW&FR Savanna District

Savanna, Illinois (815) 273-2732

Bald eagle, peregrine falcon, Indiana bat, Iowa Pleistocene snail and Higgin's eye pearly mussel

Eagles nest and spend winter along the length of this refuge. Peregrine falcons are occasionally seen flying over the Savanna District. The presence of the Higgin's eye pearly mussel was confirmed at the McGregor, LaCrosse and Savanna Districts.

Indiana

Muscatatuck NWR

Seymour, Indiana (812) 522-4352

Indiana bat, gray bat, copperbelly watersnake, bald eagle and peregrine falcon; and candidate species the cerulean warbler, Henslow's sparrow and Bog bluegrass

The copperbelly water snake is commonly found in bottomland and wetland habitats throughout the refuge. Bald eagles are infrequent visitors to the refuge. Peregrine falcons pass through the refuge during migration. The Indiana bat and gray bat may exist on the refuge, though their presence has not been confirmed. A research project is scheduled for the summer of 1995 to further investigate the presence of these species. Bog bluegrass is found in the area.

Patoka River NWR

Oakland City, Indiana (812) 749-3199

Bald eagle, Indiana bat, copperbelly water snake and fat pocketbook mussel

Indiana bats use the riverine corridor and successful reproduction has been documented on the refuge. Healthy populations of copperbelly water snakes exist in the refuge's bottomland forest habitat which has been identified as some of the best remaining in the nation for this species. Bald eagles occasionally are seen on the refuge. Fat pocketbook mussels may exist in the lower Patoka River.

Iowa

DeSoto NWR

Missouri Valley, Iowa (712) 642-4121

Baldeagle, peregrine falcon, interior least tern, pallid sturgeon and piping plover

Habitat management efforts have been aimed at attracting endangered least terns and threatened piping plovers. Roughly 1,800 linear feet of the former North Beach shoreline, 35 acres of the Sandbar area, and two acres of Sandbar

Continued on next page

point are maintained as potential nesting sites. Tern decoys are placed on these areas to attract the birds. One least tern has been spotted since management efforts began in the mid-1980s

Driftless Area NWR

McGregor, Iowa (319) 873-3423

Iowa Pleistocene snail, northern monkshood and Leedy's roseroot

The refuge, consisting of widely scattered tracts of land, was established to protect the Federally endangered Iowa Pleistocene snail and the Federally threatened northern monkshood plant. Preservation of the slopes and these rare species warrants maintaining a relatively low profile within the community.

Iowa WMD

Titonka, Iowa (515) 928-2523

Prairie bush-clover, western prairie fringed orchid, bald eagle and piping plover

Mark Twain NWR Wapello District

Wapello, Iowa (319) 523-6982

Bald eagle, peregrine falcon and Higgin's eye pearly mussel



The Higgin's eye pearly mussel

Bald eagles are fall and spring visitors to the Wapello District, with a few taking up winter residence as the weather and river conditions allow. Peak numbers of 25 to 30 birds are common in March.

Union Slough NWR

Titonka, Iowa (515) 928-2523

Bald eagle and piping plover

Bald eagles are normally seen during spring and fall migrations. In March 1992, approximately 20 eagles spent several days on the refuge.

Upper Mississippi River NW&FR McGregor District

McGregor, Iowa (319) 873-3423

Bald eagle, peregrine falcon and Higgin's eye pearly mussel

More than 200 bald eagles can typically be found on this river refuge during the winter. Eagles on 17 active nests produced a total of 31 young in 1994.

Walnut Creek NWR

Prairie City, Iowa (515) 994-2415

Indiana bat, western prairie fringed orchid, eastern prairie fringed orchid, prairie bush-clover and Mead's milkweed

Indiana bats have been captured on the refuge for two years, and have led to the incorporation of Indiana bat recovery plans into savanna restoration plans. Prairie bush clover seed has been harvested locally and planted on a prairie reconstruction site that matches the typical conditions of populations in Iowa. Western prairie fringed orchid, eastern prairie fringed orchid and Mead's milkweed sites are being located and inventoried for use in developing future introduction strategies for these species on the refuge. Monitoring of birds, mammals, invertebrates, plants, water quality and hydrology began in 1994, and is intended to provide ecological assessment information useful in understanding progress toward ecosystem recovery. This will assist in successful reintroduction and long-term maintenance of threatened endangered species on the refuge.

Michigan

Seney NWR

Seney, Michigan (906) 586-9851

Gray wolf, Kirtland's warbler, peregrine falcon, and bald eagle confirmed. Not confirmed but potentially present are pitcher's thistle, dwarf lake iris and Houghton's goldenrod

Three pairs of bald eagles have nested on the refuge in the past few years. During spring migration peregrine falcons can be observed preying upon blue-winged teal and hooded mergansers. As part of habitat management for the Kirtland's warbler, one 80-acre tract of mature jack pine was burned and hundreds of acres of jack pine are cut and regenerated each year. The satellite refuge, Kirtland's Warbler National Wildlife Refuge, exists for the sole purpose of protecting this endangered species. To see the Kirtland's warbler, visit the Mack Lake burn site, 7 miles south of the town of Mio, or take the Kirtland's warbler auto tour and guided tours out of Grayling, Michigan.

Shiawassee NWR

Saginaw Michigan (517) 777-5930

Bald eagle, peregrine falcon and eastern prairie fringed orchid



The peregrine falcon

Shiawassee National Wildlife Refuge, and the adjoining Shiawassee River State Game Area, contain the largest remaining tracts of forests and wetlands indigenous to the Saginaw County floodplain. A single eagle pair successfully nests on this refuge. During the winter, the peak population of this threatened species is around eleven. Peregrine falcons are sighted as they migrate through this area each spring and fall.

Minnesota

Agassiz NWR

Middle River, Minnesota (218) 449-4115

Gray wolf, peregrine falcon and bald eagle

This 61,449 acre refuge in the northwest corner of Minnesota is situated within the prairie-aspen park land which is the historical home of the gray wolf. Currently, two wolf packs make Agassiz their home. Although wolf observations are not predictable,

Continued on next page

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the public can contact refuge staff to obtain access to areas used by wolves. Bald eagle spring and fall migrations are easily observed in April, October and November throughout the refuge.

Big Stone NWR

Ortonville, Minnesota (612) 839-3700 Bald eagle

The Bald eagle is an occasional visitor to this refuge during spring and fall migration.

Crane Meadows NWR

Little Falls, Minnesota (612) 632-1575

Bald eagle and peregrine falcon

One active bald eagle nest is located on private property within the area designated for future acquisition. The area provides excellent migration habitat for eagles.

Detroit Lakes WMD

Detroit Lakes, Minnesota (218) 847-4431

Bald eagle, western prairie fringed orchid, gray wolf and peregrine falcon

Eagles are now commonly observed on Waterfowl Production Areas during migration periods and the summer. To date, no eagles are known to nest on Waterfowl Production Areas, however, the number of area nests are increasing. Public reports of gray wolf are received each year.

Fergus Falls WPA

Fergus Falls, Minnesota (218) 739-2291

Peregrine falcon, bald eagle, gray wolf, western prairie fringed orchid, prairie bush-clover and piping plover

Gray wolf sightings have steadily increased in the past few years. The western prairie fringed orchid has been found on adjacent, privately-owned land and is believed to be present in the Waterfowl Production Area. The bald eagle nests here. The peregrine falcon is known to migrate through the area and has been observed hunting in mid-May.

Hamden Slough NWR

Audubon, Minnesota (218) 439-6319

Bald eagle, peregrine falcon and gray wolf; and western prairie fringed orchid are found near refuge lands Established in 1989, Hamden Slough will attract bald eagles and peregrine falcons as the refuge develops and migrating waterfowl numbers increase. Bald eagles have already been sighted during spring and fall migration. Peregrine falcons and gray wolves are regularly sighted in the county and their presence on the refuge is expected soon.

Litchfield WMD

Litchfield, Minnesota (612) 693-2849

Bald eagle, peregrine falcon, gray wolf, western prairie fringed orchid and prairie bush-clover

Successful nests were first observed in 1982 in the eastern part of the District along the Mississippi River. Since then, eagles are frequently sighted in the southern portion of the District along the Minnesota River. In 1993, the first successful nest in many decades was observed in the central portion of the District.

Minnesota Valley NWR

Bloomington, Minnesota (612) 854-5900

Bald eagle, peregrine falcon and western prairie fringed orchid



Western prairie fringed orchid

The Wilkie and Upgrala Units are developing into a spring staging area for bald eagles, with nine observed in 1991 and 16 observed the following year. The Louisville Swamp Unit is also becoming a popular eagle spot. A peregrine falcon nesting platform is located on Black Dog Lake. Three peregrine falcons successfully fledged in 1994.

Morris WMD

Morris, Minnesota (612) 589-1001

Bald eagle, peregrine falcon and western prairie fringed orchid

During the early part of the year, reports of winter eagle sightings are received from the public. In 1992, two nests were located with one fledging two eaglets.

Rice Lake NWR

McGregor, Minnesota (218) 768-2402

Gray wolf, bald eagle and peregrine falcon

Spring migration for eagles peaked at a record 67 in March 1994. Fall migration is usually the most impressive. Two active nests are located on the refuge. One eaglet fledged from each of the nests in 1993 and 1994. Sightings of gray wolves are increasing in the vicinity of the refuge. Refuge staff occasionally locate wolf tracks, usually during the winter months.

Sherburne NWR

Zimmerman, Minnesota (612) 389-3323

Bald eagle and peregrine falcon

Bald eagle numbers continue to increase on this refuge, with five active nests. Two of these can be observed on the wildlife auto tour drive with the help of spotting scopes. Peregrine falcons have also been observed on the refuge. The first fledging of peregrine falcons in Sherburne County took place in 1992 at the Sherco Plant, eight miles southwest of the refuge.

Tamarac NWR

Rochert, Minnesota (218) 847-2641

Gray wolf and bald eagle

Wolf howling surveys were conducted in 1993 and the location of a den containing three pups and five adults confirmed the presence of two packs on the refuge. Wolves have been sighted on the refuge Blackbird Auto Tour and the refuge service road. Bald eagles are successfully nesting on the refuge. The refuge has 18 active nests. Nesting eagles can be observed in spring along the Blackbird Auto Tour, Tamarac Lake, Evans Lake, Flat Lake, Mitchell Dam at

Continued on next page

Rice Lake, Height of Land Lake and along the Ottertail River.

Upper Mississippi River NW&FR Winona District

Winona, Minnesota (507) 454-7351

Baldeagle, peregrine falcon, Higgin's eye pearly mussel and Karner blue butterfly

View eagles at the observation deck located in Wabasha and along the Mississippi River.

Windom WMD

Windom, Minnesota (507) 831-2220

Bald eagle, western prairie fringed orchid and prairie bush clover



The prairie bush clover

Bald eagles are uncommon spring and fall migrants through the district. The threatened prairie bush clover was found on one waterfowl production area in 1994.

Missouri

Mark Twain NWR Annada District

Annada, Missouri (314) 847-2333

Bald eagle, peregrine falcon, piping plover and Indiana bat

The bald eagle is generally a common sight as it winters along the Mississippi and Illinois Rivers and other open water areas. Active eagle nests are located on the Clarence Cannon and Delair

Divisions of the refuge. Piping plovers are rare migrants to the refuge, as occasionally are peregrine falcons. The Indiana bat has been confirmed on the Gardner Division.

Mingo NWR

Puxico, Missouri (314) 222-3589

Peregrine falcon, bald eagle and Indiana bat

Peregrine falcons are rare visitors to the refuge, however, bald eagles are a common sight, especially November through February when the population can reach 50 birds. Bald eagles have successfully nested on Monopoly Marsh since 1985 and can be seen on the refuge throughout the year.

Neosho NFH

Neosho, Missouri (417) 451-0554 Ozark cavefish

Visitors can view the threatened Ozark cavefish via closed circuit video hookup monitors with the underground spring where the fish is found. The public can view the Ozark cavefish in the hatchery visitor center with this interactive exhibit. This is the only place in the United States with a viewing system that allows people to look into the fish's natural environment.

Ozark Cavefish NWR

Neosho, Missouri (417) 451-0554 Ozark cavefish

This refuge currently has two units and was established for the protection of the threatened Ozark cavefish and the watersheds surrounding the underground springs where the fish are found. Sites are managed by the staff at the Neosho National Fish Hatchery and Mingo National Wildlife Refuge.

Pilot Knob NWR

Puxico, Missouri (314) 222-3589 Indiana bat

Part of Mingo National Wildlife Refuge, Pilot Knob was established for protection of the Indiana bat. Pilot Knob is an abandoned mine shaft, closed to the public due to extremely dangerous conditions. The presence of Indiana bats has been confirmed and its management currently rests on protection of the cave and its inhabitants.

Squaw Creek NWR

Mound City Missouri (816) 442-3187

Bald eagle, peregrine falcon and least tern



The least tern

Observations of a large winter concentration of bald eagles is a major attraction for visitors, October through March. Hundreds of eagles come to feed on the thousands of snow geese resting and feeding during spring and fall migration on eagle and pelican pools. Peregrine falcons and least terns have been observed at this refuge; however, neither were seen in 1992.

Swan Lake NWR

Sumner, Missouri (816) 856-3323

Peregrine falcon and bald eagle

A total of 35 bald eagles were observed on the refuge in 1993. In 1992, a peak of 45 bald eagles were recorded using the refuge. Peregrine falcons can also be found at Swan Lake, though none were sighted in 1993.

Ohio

Ottawa NWR

Oak Harbor, Ohio (419) 898-0014

Bald eagle, peregrine falcon, Indiana bat, lakeside daisy and eastern prairie fringed orchid



The lakeside daisy

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Bald eagle use of this refuge has steadily increased during the past four years. Eight nests are located on the refuge, while only three nesting pairs are actively raising young. Peak numbers near 50 birds using this refuge. The refuge is located within the bounds of the 8 million person megalopolis of Cleveland, Akron, Columbus, Dayton, Detroit and Toledo.

Wisconsin

Lake Superior FROAshland, Wisconsin (715) 682-6185
Coaster brook trout



The coaster brook trout

Although the coaster brook trout is not currently listed as endangered, threatened or a candidate, a request has been filed with the Service for a review of its status for possible listing. The Service chairs an interagency group of fishery biologists developing a status report and restoration plan for Lake Superior.

Horicon NWR

Mayville, Wisconsin (414) 387-2658

Bald eagle and peregrine falcon

Bald eagle sightings have been relatively common for the last two years. Peregrine falcons are more rarely seen.

Fox River NWR (satellite of Horicon National Wildlife Refuge)

Mayville, Wisconsin (414) 387-2658

Bald eagle and peregrine falcon

The bald eagle and peregrine falcon share the unique habitat of Fox River National Wildlife Refuge with about 150 other wildlife species. Bald eagles and peregrine falcons use the Fox River as one of their primary migrational corridors in the fall and spring.

Leopold WMD

Mayville, Wisconsin (414) 387-2658

Gray wolf, peregrine falcon, bald eagle, Karner blue butterfly, eastern prairie fringed orchid, dwarf lake iris, Fassett's locoweed, pitcher's thistle, prairie bush-clover and Hine's emerald dragonfly

Necedah NWR

Necedah, Wisconsin (608) 565-2551

Karner blue butterfly, bald eagle and peregrine falcon

The Karner blue butterfly is found on numerous sites throughout the refuge. Management direction is currently changing to address habitat needs of the butterfly and the subsequent restoration of oak barrens which were once found on the refuge. An extensive effort to interpret this species and the refuge's subsequent management goals has begun.

St. Croix WMD

New Richmond, Wisconsin (715) 246-7784

Gray wolf, Karner blue butterfly, peregrine falcon, piping plover, bald eagle, Higgin's eye pearly mussel, prairie bush-clover and winged-maple leaf mussel



The winged maple leaf mussel Trempealeau NWR

Trempealeau, Wisconsin (608) 539-2311

Bald eagle and peregrine falcon

In addition to the bald eagle and peregrine falcon, the refuge has habitat to support the Karner blue butterfly and could serve as a site for establishing a new population should the recovery plan call for it. Monitoring for the butterfly is continuing and the grassland management plan could be altered to meet the butterfly's requirements if it is discovered on the refuge. Until last year, a pair of bald eagles had nested on the refuge. The eagle's first nest was built in 1986. In 1993, a nest was relocated just outside of the refuge boundary. A significant fish kill in the refuge pool during the winter of 1993 provided dead fish to more than 150 migrating eagles this spring. Two or three juvenile eagles used the refuge as a feeding site throughout the summer.

Upper Mississippi River NW&FR LaCrosse District

LaCrosse, Wisconsin (608) 784-3910

Peregrine falcon, Higgin's eye pearly mussel and bald eagle

The bald eagle is relatively common on the LaCrosse District and can be seen throughout the year. At least six active nests are located on the District. From these nests, approximately eight to 10 eagles reach fledging stage each year.

Glossary of Terms

Biological Assessment -- A document, or summary of information prepared on major construction activities by or under the direction of a Federal action agency to determine whether a proposed Federal action is likely to adversely affect listed species, proposed species, or designated critical habitat, for use in the Section 7 consultation process.

Biological Opinion -- A document stating the opinion of the Fish and Wildlife Service on whether or not a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Candidate Species -- Plants or animals which the Service is reviewing for possible addition to the list of endangered and threatened species.

CITES -- The 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora, restricting international commerce in plant and animal species believed to be harmed by trade.

Consultation -- A term referring to communications between the Service and other Federal agencies as required under Section 7 of the Act.

Critical Habitat -- Specific geographic areas, whether occupied by listed species or not, that are determined to be essential for the conservation and management of listed species.

Ecosystem Approach -- The Service's ecosystem approach will refocus the working relationship with Federal, State and local partners to manage the nation's ecosystems more effectively and prevent species from becoming endangered by habitat loss or degradation.

Endangered Species -- Any species which is in danger of extinction throughout all or a significant portion of its range.

Endangered Species Permit -- A document issued by the Service under authority of Section 10 allowing an action otherwise prohibited under Section 9 of the Endangered Species Act.

Extirpated -- Local extinctions or loss of a species from a region or State.

Federal Action Agency -- Any department, agency, or instrumentality of the United States proposing to authorize, fund, or carry out an action under existing authorities.

Formal Consultation -- A formal communication process under Section 7 involving the Service and a Federal action agency, that leads to a determination on whether a Federal action is likely to jeopardize the continued existence of a listed species or is likely to destroy or adversely modify critical habitat.

God Squad -- A nickname for the Endangered Species Committee, a Cabinet-level committee that can be summoned to decide whether, in particular cases, there should be exemptions to the Act for economic reasons.

HCP (**Habitat Conservation Plan**) -- A required part of an application to the Service for an incidental take permit under Section 10 (a) (1) (B) specifying the impact which will result from such taking, steps the applicant will take to minimize and mitigate such impacts, alternative actions to such taking the applicant has considered, and other measures the Service may require.

Incidental Take Permit -- A permit issued by the Service under authority of Section 10 (a) (1) (B) allowing take of a species that is otherwise prohibited, when such taking is incidental to, and not the purpose of an otherwise lawful activity, and covered by a habitat conservation plan.

Incidental Take Statement -- A term referring to that part of a biological opinion authorizing incidental take of a listed species as part of a Federal action reviewed during formal consultation.

Informal Consultation -- An informal communication process under Section 7 involving the Service and Federal action agency, designed to facilitate information exchange and help Federal agencies determine if a formal consultation is required.

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Jeopardy Biological Opinion -- This Section 7 term refers to a biological opinion from the Service which determines that a Federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

Listing -- A term referring to the formal process through which the Service adds species to the Federal List of Endangered and Threatened Wildlife and Plants.

Notice of Review -- Public notices (one for animals, one for plants) published in the Federal Register, through which the Service seeks biological information that will complete the status review for candidate species.

No Jeopardy Biological Opinion -- A biological opinion from the Service which determines that a Federal action is not likely to jeopardize the existence of a listed species or result in the destruction or adverse modification of critical habitat.

Petition -- A formal communication received from the public requesting that the Service initiate a specific action, such as listing a species. The public may petition the Service to take a wide variety of actions under authority of the Endangered Species Act, or the Administrative Procedure Act.

Proposed Species -- A species which the Service formally proposes, through announcement in the Federal Register, to add to the list of Endangered and Threatened Wildlife and Plants.

Reauthorization -- A term referring to periodic action taken by Congress to reauthorize the Endangered Species Act.

Recovery -- A term referring to all actions relating to the planning, implementation, and achievement of recovery of listed species, leading to their removal from the Federal list.

Recovery Permit -- Section 10 of the Endangered Species Act defines several types of recovery permits that can be issued to individuals meeting certain criteria when the activities they propose address recovery goals for the species.

Recovery Plan -- A document drafted by the Service, with input from knowledgeable individuals or a team of experts, that serves as a guide for activities to be undertaken by Federal, State or private entities in helping to recover endangered or threatened species.

Regulatory Taking -- A reference to claims by private landowners that their right to use their property has been taken by a regulatory agency without compensation, in violation of the Fifth Amendment.

Rulemaking Procedure -- the strict legal process used by the Service in listing a species as endangered or threatened.

Scientific and Commercial Data -- A term referring to the requirement that the Service use the best scientific and commercial data available on species and their habitat requirements in determining what species should be listed and designating critical habitat.

Scientific Take Permit -- A special type of recovery permit authorized under Section 10 allowing for research pertaining to species recovery such as taking blood samples from a peregrine falcon for genetic analysis, or conducting surveys of freshwater mussel beds to determine species status and distribution.

Section 4 -- This section of the Endangered Species Act deals with listing and recovery of species, and designation of critical habitat.

Section 4(d) Rule -- A term referring to a special regulation promulgated by the Service under authority of Section 4 (d) allowing incidental take of a threatened species when it is determined that such a rule is necessary and advisable to provide for the conservation of a species.

Section 6-- This section of the Endangered Species Act authorizes the Service to provide financial assistance to States through cooperative agreements supporting the conservation of endangered and threatened species.

Section 7 -- This Section of the Endangered Species Act requires all Federal agencies, in "consultation" with the Service, to insure that their actions are not likely to jeopardize the continued existence of listed species or result in destruction or adverse modification of critical habitat.

Section 9 -- This section of the Endangered Species Act deals with prohibited actions including the import and export, take, possession, transport, or sale of endangered or threatened species.

Section 10 -- This section of the Endangered Species Act lays out the guidelines under which a permit may be issued to lawfully take endangered or threatened species.

Species -- Any species of fish, wildlife or plants, any subspecies of fish, wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.

Take -- To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect an endangered or threatened species, or to attempt to engage in any such conduct.

Threatened Species -- Any species which is likely to become endangered within the foreseeable future.

Train Wreck -- A term referring to conflict between conservation and economic development where a species and its habitat are so depleted there is no choice but drastic action to save what is left.

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"We must learn to live more lightly on the land and to recognize the warning signs of distressed ecosystems."

Interior Secretary Bruce Babbitt

<u>The Mio Model</u>



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